

EXHIBIT D

UNITED STATES DISTRICT COURT

DISTRICT OF NEBRASKA

MICHAEL SARBACKER, Individually and on)	No.
Behalf of All Others Similarly Situated,)	
Plaintiff,)	<u>CLASS ACTION</u>
vs.)	CLASS ACTION COMPLAINT FOR
TD AMERITRADE HOLDING)	BREACH OF CONTRACT, FRAUD,
CORPORATION, TD AMERITRADE, INC.,)	NEGLIGENT MISREPRESENTATION,
TD AMERITRADE CLEARING, INC.,)	VIOLATIONS OF NEB. REV. STAT. §59-
FREDRIC J. TOMCZYK and PAUL JIGANTI,)	1601 <i>et seq.</i> , AND AIDING AND
Defendants.)	ABETTING
_____)	<u>DEMAND FOR JURY TRIAL</u>

Plaintiff Michael Sarbacker, by his attorneys, brings this action on behalf of himself and all others similarly situated (the “Class,” as further defined below) for breach of contract, fraudulent misrepresentation, negligent misrepresentation, aiding and abetting fraud, and violation of Neb. Rev. Stat. §59-1601 *et seq.*, against defendants TD Ameritrade Holding Corporation, TD Ameritrade, Inc., TD Ameritrade Clearing, Inc. (collectively, “TD Ameritrade” or “the Company”), and individual defendants Fredric J. Tomczyk and Paul Jiganti (with TD Ameritrade, collectively, “Defendants”). Plaintiff’s allegations are based on information and belief from the investigation conducted by plaintiff’s counsel, except as to those allegations pertaining to the named plaintiff, which are made upon personal knowledge.

INTRODUCTION AND OVERVIEW

1. This case arises out of Defendants’ failure to provide best execution to TD Ameritrade clients. Pursuant to regulations imposed by the SEC and FINRA, and the terms of its own Client Agreement (as defined below), TD Ameritrade has a duty to route its brokerage clients’ trades to the exchange or trading venue offering the “best execution” for the trade. Best execution is based on numerous considerations, such as price improvement for the client’s trade, the speed of the trade’s execution and the trading characteristics of the security. Providing best execution for clients’ trades is promised by TD Ameritrade in the Client Agreement entered into by plaintiff and the Class, who pay a fee to TD Ameritrade for its brokerage services. The Client Agreement, as well as numerous other public representations made by Defendants, falsely assured TD Ameritrade clients that TD Ameritrade would route their trades according to best execution.

2. In blatant disregard of Defendants’ representations, Defendants failed to route trade orders in accordance with the Client Agreement and the federally imposed duty of best execution. Instead, Defendants, to the detriment of TD Ameritrade clients, routed client orders almost exclusively to the trading venue that offered TD Ameritrade the largest kickbacks – that is,

maximizing compensation to be received by TD Ameritrade as either payment for order flow or liquidity rebates, instead of routing trades based on best execution.

3. In fact, a TD Ameritrade executive recently admitted as much. During a hearing before the United States Senate, the TD Ameritrade executive testified that TD Ameritrade routed “virtually all” client trades *not* to ensure best execution, but for the purpose of maximizing kickbacks TD Ameritrade received from exchanges and other market participants for client trades. For payment for order flow alone, TD Ameritrade reported receiving at least **\$605 million** in its last three fiscal years. The kickbacks TD Ameritrade has reaped from routing orders to maximize liquidity rebates remains undisclosed, though the TD Ameritrade executive estimated during the Senate hearing that in 2013, TD Ameritrade made approximately \$80 million.

4. Exchanges and other market participants, seeking to increase their own profits, paid these considerable sums for TD Ameritrade’s clients’ orders because these trading venues make money on each trade executed. The preferred customers of such trading venues are so-called “high-frequency” trading (“HFT”) firms, which trade many thousand times the number of trades that an average retail investor makes.¹ HFT firms seek to trade against what is known in the industry as “dumb” money – retail investors without sophisticated equipment or trading strategies who execute their buy and sell orders through discount brokerages like TD Ameritrade. “Dumb” money cannot

¹ High-frequency trading uses technology and computer algorithms to rapidly trade securities. The trading programs run by firms specializing in HFT allow the traders to opportunistically move in and out of positions in seconds or less, shaving off fractions of a cent in profit on every trade, but because of the enormous volume of trades, HFT firms can accumulate large profits. Since exchanges and other market pools make money by executing trades, HFT “was like a magical elixir” that “brought massive volume, resulting in massive profits.” Scott Patterson, *Dark Pools, The Rise of the Machine Traders and the Rigging of the U.S. Stock Market* 41 (2012) (“*Dark Pools*”). Exchanges and other market pools lured HFT firms by offering terabytes of data – not available to average investors – about what other traders were doing, which the HFT firms process and react to in microseconds. *Id.* at 5 and 41. This informational asymmetry allows HFT firms to use special order types that are predatory and remain hidden until the last microsecond and then jump in front of the line to execute the trade.

compete against HFT firms, which conduct high-speed computerized trading using super computers, complex algorithms and special order types. By paying TD Ameritrade to direct clients' order flow to them, trading venues increase the "dumb" money that trades in their pools, thereby enticing HFT firms to also trade in a particular trading venue's pool, which then allows the trading venue to profit from the enormous number of trades executed by HFT firms and against retail trades. Indeed, the "dumb" money making up TD Ameritrade's order flow was a valuable commodity to exchanges and other market venues: one former TD Ameritrade executive acknowledged that the rise of HFT caused the value of TD Ameritrade's order flow to at least "triple."

5. Thus, HFT firms profited by trading against TD Ameritrade's clients' trades, trading venues and other market participants profited by encouraging HFT, and Defendants profited by routing TD Ameritrade's clients' "dumb" money to the venues that paid the most for those orders. TD Ameritrade clients, meanwhile, are taken advantage of, particularly by the very entity – their broker, TD Ameritrade – promising and obligated to provide best execution.

6. In just the last three years, TD Ameritrade pocketed as much as \$605 million in payments for order flow and \$80 million per year for liquidity rebates. TD Ameritrade amassed this by routing client trades to the highest bidder for Defendants' own benefit. TD Ameritrade customers were thus not receiving best execution, but were being severely harmed. Because Defendants did not provide the promised and required best execution of clients' trades, plaintiff and the Class did not obtain maximum price improvement on the national best bid and offer ("NBBO") for their trades, and their trades sometimes even failed to execute at all.

JURISDICTION AND VENUE

7. This Court has jurisdiction over the subject matter presented by this Complaint because it is a class action arising under the Class Action Fairness Act of 2005 ("CAFA"), 28 U.S.C. §1332(d). The matter in controversy, exclusive of interest and costs, exceeds the sum or value of

\$5,000,000. The total number of members of the proposed Class is greater than 100. Members of the putative class reside nationwide, and perhaps internationally, thus satisfying the requirement of citizenship in a state different from any defendant. Plaintiff is a citizen of a state different than that of the Defendants.

8. Venue is proper in this Court pursuant to 28 U.S.C. §1391(b) because TD Ameritrade's principal place of business is located within Nebraska at 200 South 108th Avenue, Omaha, Nebraska, 68154, and because a substantial part of the events giving rise to the claims alleged herein occurred in this District.

9. This action is brought as a class action. Therefore, it is not subject to arbitration under the terms of TD Ameritrade's Client Agreement, which provides that "[n]o person will bring a putative or certified class action to arbitration, nor seek to enforce any predispute arbitration agreement against any person who has initiated in court a putative class action."

PARTIES

10. Plaintiff Michael Sarbacker has been a TD Ameritrade client since at least 2008. As a TD Ameritrade client, plaintiff executed a contract with TD Ameritrade for brokerage services as more fully described herein. Plaintiff repeatedly traded in various securities using defendant TD Ameritrade's services and paid a fee for each trade, and reasonably expected each of those transactions to comply with the terms of his agreement with TD Ameritrade, and with the requirements of federal and state laws and regulations requiring TD Ameritrade to act in plaintiff's best interests. Plaintiff is a citizen of the State of Massachusetts.

11. Defendant TD Ameritrade Holding Corporation ("TDAH") is a Delaware corporation whose principle executive offices are located at 200 South 108th Avenue, Omaha, Nebraska, 68154. TDAH is a citizen of the States of Delaware and Nebraska. TDAH is a holding company that conducts substantially all of its business through its operating subsidiaries, which engage in

securities brokerage services and other related technology-based financial services, including online trading. According to its most recent Form 10-K for its fiscal year ending September 30, 2013, it offers “brokerage services to retail investors and institutions under a simple low-cost commission structure.” With 126 branches in addition to online support, it provides investing and trading services for nearly six million client accounts, totaling more than \$400 billion in assets and approximately 400,000 trades per day.

12. Defendant TD Ameritrade, Inc. (“TDAI”) is a New York corporation whose headquarters are located at 200 South 108th Avenue, Omaha, Nebraska, 68154. TDAI is a citizen of the States of New York and Nebraska. TDAI is a wholly owned subsidiary of TDAH. It is an introducing securities broker-dealer and a financial advisor registered with the SEC. As an introducing broker-dealer, TDAI does not hold client funds or securities, but rather advises and guides clients and their transactions to a correspondent clearing broker, in this case, defendant TD Ameritrade Clearing, Inc. (“TDAC”), with whom TDAI clears its client securities transactions. According to its Annual Audited Report filed with the SEC on November 27, 2013, TDAI receives a share of transaction fees, net interest, and other revenues from TDAC pursuant to revenue sharing provisions in a clearing agreement. TDAI is also a member of the Financial Industry Regulatory Authority (“FINRA”) and the New York Stock Exchange (“NYSE”). It is therefore required to comply with all rules and regulations of the SEC, FINRA and NYSE.

13. Defendant TD Ameritrade Clearing, Inc. (“TDAC”) is a Nebraska corporation whose headquarters are located at 200 South 108th Avenue, Omaha, Nebraska, 68154. TDAC is a citizen of the State of Nebraska. TDAC is a wholly owned subsidiary of TDAH. TDAC is a securities broker-dealer that provides clearing and execution services to defendant TDAI. Clearing services include confirmation, receipt, settlement, delivery, and record-keeping functions involved in processing securities transactions. It also, among other activities, maintains client accounts, engages

in securities lending and borrowing transactions, settles commissions and transaction fees, settles securities transactions with external clearinghouses, prepares client trade confirmations and statements, delivers and receives funds and securities to or from the client, and possesses and controls the funds and securities of client accounts. It is required to comply with all applicable rules and regulations of the SEC and FINRA. TDAC is also a member of The Depository Trust & Clearing Corporation and The Options Clearing Corporation, each of which is registered as a clearing agency with the SEC, and is thus required to comply with the rules of such clearing agencies, including rules relating to possession or control of client funds and securities, margin lending and execution and settlement of transactions.

14. Defendant Fredric J. Tomczyk (“Tomczyk”) has served as President and Chief Executive Officer (“CEO”) of TDAH since October 2008. Tomczyk received \$900,000 in base salary for fiscal year 2013, following a raise of \$200,000 from the prior year, and an additional \$6.15 million bonus, based in part on (1) TD Ameritrade’s earnings per share, (2) market share of client revenue trades among TD Ameritrade’s primary publicly traded competitors, and (3) net new client assets. Tomczyk serves on TDAH’s Board of Directors, and from July 2007 until his current appointment, he served as the Company’s Chief Operating Officer, responsible for all operations, technology, retail sales functions and the registered investment advisor channel. He served on the board of directors for Knight Capital Group (“Knight”), an HFT firm, from August to December 2012 when Knight was acquired by Getco Holding Co., another HFT firm. Tomczyk held the director position at Knight after TD Ameritrade bought \$40 million in securities convertible to help rescue Knight after a computer trading glitch lost \$440 million and depleted Knight’s capital. At the time, TD Ameritrade was one of Knight’s main customers for execution. Defendant Tomczyk is a citizen of the state of New York.

15. Defendant Paul Jiganti (“Jiganti”) is the Managing Director of Market Structure and Client Advocacy for TDAH. He joined TD Ameritrade in July 2012. He is responsible for determining the most effective way to manage client order routing and is part of the committee purportedly reviewing best execution. He is also responsible for maintaining relationships with the exchanges. He is a member of the Chicago Board of Options Exchange Advisory Board, board of directors of NYSE Amex Options LLC (non-voting member), Light Pool Advisory Board, NASDAQ Quality of Markets Committee, and SIFMA Options Committee. Prior to working at TD Ameritrade, Jiganti was an associate director and later led the Chicago office for Susquehanna, an HFT firm. Defendant Jiganti is a citizen of the state of Illinois.

CLASS ACTION ALLEGATIONS

16. Plaintiff brings this action individually and as a class action under Fed. R. Civ. P. 23(a) and (b)(3), on behalf of all TD Ameritrade retail clients in equity securities and options who traded from August 12, 2009, to the date of this filing, and are being and will be harmed by Defendants’ actions described below (the “Class”). Excluded from the Class are Defendants herein and any person, firm, trust, corporation, or other entity related to or affiliated with any of the Defendants.

17. This action is properly maintainable as a class action.

18. The Class is so numerous and geographically dispersed that joinder of all members is impracticable. As TD Ameritrade reports on its website, it has nearly six million client accounts nationwide. Further, the Class is readily identifiable from information and records in the Defendants’ possession.

19. Plaintiff’s claims are typical of the claims of the other members of the Class. Plaintiff and all members of the Class were damaged by the same wrongful conduct of Defendants, *i.e.*, in contravention of the terms of the Client Agreement and regulatory requirements, Defendants

wrongfully and fraudulently failed to secure the best execution for TD Ameritrade's clients' trades, and instead sought out payments for order flow and liquidity rebates for TD Ameritrade's own gain, to the detriment of its clients.

20. Plaintiff will fairly and adequately protect and represent the interests of the Class. Plaintiff's interest coincide with, and are not adverse to, the Class. Plaintiff has retained competent counsel experienced in litigation of this nature, and will fairly and adequately protect the interests of the Class.

21. Questions of law and fact common to the members of the Class predominate over questions affecting any individual Class member. The common questions include, *inter alia*, the following:

(a) whether TD Ameritrade breached the Client Agreement with respect to securing the best execution for its clients' trades;

(b) whether Defendants defrauded TD Ameritrade clients by purporting to obtain best execution for their clients' trading orders, when in fact they routed trades virtually always to maximize payments from market venues;

(c) whether Defendants made misrepresentations regarding their duty of best execution;

(d) whether TD Ameritrade engaged in unlawful or unfair business practices;

(e) whether plaintiff and the other members of the Class were damaged thereby;

(f) whether plaintiff and the other members of the Class are entitled to equitable relief; and

(g) whether plaintiff and the other members of the Class are entitled to injunctive relief.

22. The prosecution of separate actions by individual members of the Class would create a risk of inconsistent or varying adjudications with respect to individual members of the Class, which would establish incompatible standards of conduct for the party opposing the Class.

23. Plaintiff anticipates that there will be no difficulty in the management of this litigation. A class action is superior to other available methods for the fair and efficient adjudication of this controversy. Such treatment will permit a large number of similarly situated persons to prosecute their common claims in a single forum simultaneously, efficiently, and without unnecessary duplication of evidence, effort, or expense that numerous individual actions would engender. The benefits of proceeding through the class mechanism, including providing injured persons or entities a method of obtaining redress on claims that could not practically be pursued individually, substantially outweighs potential difficulties in management of this class action.

24. Defendants have acted on grounds generally applicable to the Class with respect to the matters complained of herein, thereby making appropriate the relief sought herein with respect to the Class as a whole.

SUBSTANTIVE ALLEGATIONS

Basic Order Types Available to TD Ameritrade Clients

25. There are different types of basic orders investors can make when they trade with TD Ameritrade or other brokers. First, TD Ameritrade clients can utilize either a market order or a limit order. A market order is an order to buy or sell a security immediately, at the best available price. In a fast-moving market, a market order's execution price may vary significantly from the NBBO that was prevailing when the order was placed.

26. By contrast, a limit order is an order to buy or sell a certain number of shares at a price (or better) that the investor specifies. If the price cannot be met during the period of time set for the order to remain open, the order may not be executed.

27. An order can also be marketable or nonmarketable. Marketable orders are orders that generate a trade when they arrive at a trading venue. By their nature, market orders are always marketable. Additionally, a marketable buy limit order is one whose limit price is at or above the ask; a marketable sell limit order is one whose limit price is at or below the bid.

28. Conversely, nonmarketable limit orders cannot make a trade when arriving at a trading venue. A nonmarketable buy limit order is one whose limit price is below the NBBO; a nonmarketable sell limit order is one whose limit price is above the NBBO. A nonmarketable order is placed on the trading venue's limit order book where it remains until it cancels, expires, or trades.

29. Because the marketable orders are executed on arrival to the exchange or trading venue by matching with an existing corresponding buy or sell trade, they are said to "take," or remove, liquidity from the market. The nonmarketable limit orders, since they do not execute right away and sit on the venue's order book (until cancellation, expiration or trade), "make," or add, liquidity to the market.

The Development of Payment for Order Flow and Liquidity Rebates

30. In 1975, Congress authorized the SEC to facilitate a national market system ("NMS") to ensure that stock listed on registered exchanges traded at the same or similar prices across all public exchanges. One of the objectives of creating an NMS was the linking of all markets for qualified securities through communication and data processing facilities, facilitating simultaneous quoting from all exchanges and allowing investors to obtain the best price. Section 11A of the Securities Exchange Act of 1934 ("Exchange Act"), enacted in 1975, provides for the establishment of the NMS for securities. The purpose of Reg. NMS was to ensure that – as required by §11A of the Exchange Act – orders were always carried out at the best price available.

31. The SEC also mandated that exchanges distribute real-time trade and quote information to market participants. When in 1982, retail investors could see real-time quotes and

trades recorded within 90 seconds of consummation for NYSE-listed securities, competitors to the NYSE could assure brokers and their clients that trades routed to them would be treated at least as well as if they had been routed to the NYSE. In other words, other market participants could compete more directly with the NYSE because they could guarantee that market orders would trade at prices equal or better than the NBBO.

32. One of the NYSE's competitors was the over-the-counter ("OTC") market, which depends on "market makers," or broker-dealers who hold shares of securities in their own inventory to create a market for both buyers and sellers of securities. To entice retail brokers to route orders to them rather than the NYSE, wholesale market makers began offering brokers pennies per share for their orders. This practice is referred to as payment for order flow. Today, because of tightened spreads, retail brokers receive fractions of pennies per share from market makers, but with the millions of trades executed yearly, brokers accumulate millions of dollars in payments for order flow.

33. For retail brokers, this adaptation meant order routing transitioned from being a cost of doing business – since the NYSE charged retail brokers fees of up to \$0.03 per share to execute customer orders – to a source of profits. Meanwhile, wholesale market makers were benefitted by receiving a steady stream of inventory and business. Depending on the trade, the wholesale market maker could internalize the trade and execute the order against its own inventory cost-free, or route the order to another venue, such as an exchange.

34. Related to payment for order flow are liquidity, or "maker" rebates. While competition for marketable orders promoted the growth of payment for order flow, dealers were unwilling to pay for nonmarketable limit orders because of FINRA Rule 5320, which prohibits market makers from trading ahead of their customers for their own firm's accounts when there are unexecuted customer orders to buy or sell such securities that could have been executed at the same

price. In 1997, the SEC introduced the Order Handling Rules, by which market makers and dealers were to publicly display the limit order received from customers when the order was better than the market maker's quote. This allowed public limit orders to compete directly with dealers to provide liquidity for trading, which spurred the growth of electronic communication networks ("ECNs"). ECNs were the precursor to today's exchanges that operate electronic limit order books, such as BATS. To attract liquidity, ECNs offered nonmarketable limit orders a rebate when they traded; to fund the rebate, ECNs charge marketable orders, the liquidity demanders, a fee that exceeds the rebate by a small amount. This type of pricing is known as maker-taker pricing.

35. Reg. NMS cemented this pricing practice by allowing exchanges to continue charging such fees to so-called "takers" of liquidity, while offering "rebates" to so-called "makers." By the late 2000s, the maker-taker system had spread so that it was used by exchanges, including NYSE-Arca, NASDAQ and BATS.² Today, exchanges and other venues such as dark pools have tiers of rebates, based on the volume of orders a broker sends. Retail brokers are thus incentivized to concentrate their orders to a small group of those venues offering rebates in order to reap the biggest rebate.

36. Under the maker-taker system, exchanges offer a transaction rebate (for example \$0.002 per share), to parties who are "makers" or providers of liquidity, *i.e.*, traders submitting non-marketable limit orders, while charging a fee (for example \$0.003 per share) to parties who accept the makers' bids or offers, *i.e.*, "takers" of liquidity (such as traders submitting market orders or marketable limit orders). In this example, the exchanges pocket the \$0.001 difference, which, given the volume of trading in the United States, adds up to enormous amounts of money annually.

37. An example of the "maker-taker" pricing model is as follows:

² There is also the reverse of this rebate/fee system, "taker-maker," which has been adopted by at least one exchange. EDGA exchange imposes a "taker-maker" model.

Imagine a grocery store in which you can haggle over prices. The grocer is willing to sell you an apple for \$1. You, however, are offering to pay 95 cents for the apple. If the grocer agrees and takes your lower offer, *he pays the take fee* while *you get the make fee*. If, however, you decide to give in and pay \$1 for the apple, *you pay the take fee* and the grocer gets the make fee. Whoever gives in and crosses the spread between the bid and the offer pays.³

38. The “maker-taker” model runs counter to the traditional “customer priority” design, under which customer accounts are given order priority without having to pay exchange transaction fees. Under the “customer priority” model, exchanges did not charge transaction fees to investors; rather, they charged transaction fees to market makers (specialists in particular stocks who held relatively large amounts of shares in those stocks in order to facilitate trading) and paid broker-dealers for orders.

39. Practically, the “maker-taker” pricing model disfavors investors who purchase stocks to hold and sell them when they have an independent reason to, and favors traders who engage in flipping stocks for short-term profits, such as HFT firms. Computerized HFT firms try to obtain clues about what Class members, as well as big institutional investors, are planning to trade through techniques such as repeatedly placing and instantly canceling thousands of stock orders to detect demand (referred to colloquially as “pinging”). If such an HFT firm’s algorithms detected that a Class member was planning to purchase or sell a certain stock, the HFT firm’s computers would rush to buy (or sell) it first and then sell it back to that Class member at a higher or lower price, pocketing the difference. That process makes purchases or sales costlier for Class members.

40. The sophisticated market makers and HFT firms thrive on having “dumb money” on the other side of their transactions. HFT firms profit from “[d]ay traders or mom-and-pop investors who, more often than not placed relatively unsophisticated orders into the market that the computer aces gobbled up”.⁴

³ *Dark Pools* at 42 (emphasis in original).

⁴ *Dark Pools* at 181.

The equation is different with retail orders from a discount broker such as Ameritrade. Market makers know they aren't dealing with a wicked-smart hedge fund who can rip their faces off. Rather they're typically dealing with fairly uninformed – or dumb – investors.

* * *

The stock market – and almost all other markets – became a hunter-seeker battlefield of computer firms hunting for dumb money, or trying to detect the fat whale order placed by a mutual fund.⁵

41. Defendants sought to maximize TD Ameritrade's own profits without regard to the interests of plaintiff or the Class by selling both TD Ameritrade's clients' marketable orders to market makers to collect the highest payments for order flow and its clients' nonmarketable limit orders to market venues offering the highest liquidity rebates.

42. In fact, in derogation of the duty owed to plaintiff and the other Class members to route their trades to obtain the best execution, Defendants *virtually always* routed trades to venues for TD Ameritrade's own benefit: venues that either would offer the highest payment for order flow for TD Ameritrade's clients' non-directed, marketable orders, or the highest liquidity rebates for TD Ameritrade's clients' non-directed nonmarketable orders.

TD Ameritrade Promised Best Execution of Trade Orders

43. TD Ameritrade is a financial services company specializing in retail securities brokerage services. It is one of the largest retail brokers in the United States. At the end of fiscal year 2013, TD Ameritrade carried \$555.9 billion in client assets from almost six million funded client accounts.

44. When executing a trade on a client's behalf, TD Ameritrade acknowledges that it must seek best execution for the client's trade. The legally binding duty of best execution "has its roots in the common law agency obligations of undivided loyalty and reasonable care [T]he broker-dealer, absent instructions to the contrary, is expected to use reasonable efforts to maximize

⁵ *Id.* at 181-82.

the economic benefit to the client in each transaction.”⁶ The best execution duty is also regulated by the SEC and FINRA.⁷ On its own “Frequently Asked Questions” webpage relating to “Order Execution,” TD Ameritrade describes best execution as:

[A] broker/dealer’s obligation to seek the best terms reasonably available when executing a transaction on behalf of a client. While there is no one standard of what determines best execution, speed of transaction, execution price, price improvement opportunities and liquidity are typically listed by our clients as the factors that are most important to them. Simply put, most of our clients want their orders filled in their entirety, as fast as reasonably possible, and at the price they were quoted or better.⁸

45. TD Ameritrade further describes the actions it purportedly takes to satisfy its obligation to seek best execution for its clients on the “Order Execution” webpage:

Brokers are obligated to seek the best execution that is reasonably available under current market conditions for their clients’ orders. They must ***regularly and rigorously evaluate*** the order they receive to determine which markets, market makers, or Electronic Communication Networks (ECNs) offer the most favorable terms of execution. Order-routing practices should then be modified based on this information.

46. In supposed compliance with its public statements regarding best execution, TD Ameritrade clients, when opening an account, enter into a uniform contract with TD Ameritrade called the Client Agreement (“Client Agreement”). See Exhibit A, attached hereto. In the Client Agreement, TD Ameritrade promises to consider

a wide variety of factors in determining where to direct [its clients’] orders, such as execution price, opportunities for price improvement, . . . market depth, order size and trading characteristics of the security, efficient and reliable order handling systems and market center service levels, speed, efficiency, accuracy of executions, and the cost of executing orders at a market.

⁶ *Newton v. Merrill, Lynch, Pierce, Fenner & Smith*, 135 F.3d 266, 270 (3d Cir. 1998).

⁷ See Final Rule: Disclosure of Order Execution and Routing Practices, 17 C.F.R. Part 240, [Release No. 34-43590, File No. S7-16-00], available at <http://www.sec.gov/rules/final/34-43590.htm>; FINRA Rule 5310, *Best Execution and Interpositioning*, available at http://finra.complinet.com/en/display/display_main.html?rbid=2403&element_id=10455.

⁸ See https://www.tdameritrade.com/trade/orderexecution/inc_faq.html.

47. But in reality, TD Ameritrade eschews these factors when determining where to route its clients' trade orders and considers just one: where will TD Ameritrade receive the highest payments for routing its clients' orders.

48. The Client Agreement also dictates that a TD Ameritrade client must agree that TD Ameritrade "*may* receive remuneration from markets for directing orders to them," but the source and amount of such payments are only purportedly available to the client "upon written request." By the Client Agreement's terms, the mere possibility of remuneration from order flow does not extinguish or even affect TD Ameritrade's duty of best execution, or its promise to "consider a wide variety of factors." Nevertheless, in breach of its Client Agreement, receiving payments for routing client orders was TD Ameritrade's only consideration when choosing the venue to which it would route its clients' orders.

49. Recent Company statements further assert – falsely – TD Ameritrade's compliance with its best execution duty. Defendant Jiganti, TD Ameritrade's executive responsible for managing client order routing, has on multiple occasions falsely represented TD Ameritrade's commitment to best execution. In an interview with *Traders Magazine* published in February 2013, Jiganti represented that a committee monitored execution quality for TD Ameritrade's clients' trades, but would not answer questions about why at the time most of its order flow was directed to Citadel Securities:

Traders [Magazine]: At TD Ameritrade you monitor execution quality.

Jiganti: *Absolutely we monitor our execution quality. We have talented people doing great execution-quality dives every day* to make sure everything looks good.

Traders Magazine: You run the show?

Jiganti: I am part of a team. There is a broader team to make consensus decisions on routing. It's not a single point of contact anymore. It's a committee. It's fair and balanced.

Traders: How big is the team?

Jiganti: It's comprised of several people from many locations throughout the country.

Traders: Please describe the process.

Jiganti: We look at and examine our executions daily and adjust as needed. Periodically, if something warrants an adjustment – a broker-dealer goes down or an exchange has a problem – clearly, we make that decision in four seconds. But with normal things we meet as needed.

Traders: You have sent the single largest amount of your flow to Citadel Securities for a number of years. What's so special about Citadel?

Jiganti: We don't discuss these matters outside of the building, but we look at many different metrics to make sure we have chosen the right partners. Our Rule 606 reports say it all.

50. Ironically, that same interview reported that prior to his post at TD Ameritrade, Jiganti set up for Susquehanna, an HFT firm, a payment-for-order-flow program to route business to it. Jiganti then, is well aware of the incentives to draw retail order flow, like TD Ameritrade's, into the clutches of high-frequency traders.

51. Yet Jiganti continued to assert TD Ameritrade’s observance of best execution. He told *Reuters* for an April 2, 2013 article that “***TD Ameritrade constantly monitors market makers to ensure clients get the best deal.***” And in an editorial for *Traders Magazine* published on November 1, 2013, Jiganti reiterated that TD Ameritrade constantly evaluates to ensure best execution for its clients, writing:

TD Ameritrade uses competition between all types of market centers and constantly measures their performance to make sure its order routing for clients achieves the best execution possible. The performance of these market centers is measured by looking at metrics such as speed of execution, price improvement possibilities, and fill size, which are the characteristics our clients measure us by.

52. Likewise, TD Ameritrade President and CEO, defendant Tomczyk, stated in an April 23, 2014 earnings conference call for the second quarter of 2014 that *best execution is TD Ameritrade’s “number one priority”*:

After and only after seeking best execution we turn our focus to how we optimize where our flow is routed in order to maximize revenue opportunities or lower

transaction cost. Some of those opportunities come in the form of payment for order flow.

The payments we receive from some market participants do not interfere with our efforts to seek quality execution and optimize the value proposition for our clients. Payment or no payment, best execution is our number one priority. We believe that our approach is the most efficient, effective way for us to deliver on our best execution responsibilities and our value proposition for retail investors.

53. Later, in a press release issued on June 12, 2014, TD Ameritrade stated that it “employs sophisticated order routing technology and process to help it meet its obligations to seek best execution for client orders. The system is flexible, with the ability to route to several destinations in an effort to seek best execution quality.” Defendant Tomczyk is quoted in the press release, extolling TD Ameritrade’s focus on best execution:

“There exist today comprehensive regulations and oversight, disclosure and industry competition, as well as the many checks and balances we have implemented over the years, to ensure that we remain focused on satisfying our obligation to seek best execution on behalf of our clients. Without their trust and satisfaction we wouldn’t have a business, and we could not maintain either of them if we didn’t deliver on our promises to the best of our abilities.”

54. In a prepared statement for a hearing on “Conflicts of Interest, Investor Loss of Confidence and High Speed Trading in the U.S. Stock Markets” before the United States Senate Permanent Subcommittee on Investigations (“Senate Subcommittee”) on June 17, 2014, Steven Quirk, Senior Vice President of the Trader Group at TD Ameritrade, repeated TD Ameritrade’s supposed commitment to best execution, stating, “When handling customer orders, brokers are required to seek the most favorable terms reasonably available under the circumstances. We consider many factors in making this assessment, including, the opportunity to obtain a better price than currently quoted, the speed of execution and the likelihood of execution.” Mr. Quirk then provided in his written statement TD Ameritrade’s purported step-by-step strategy for order routing:

- First, we give our clients choice. They can choose to route their orders using TD Ameritrade’s order routing logic, or they can choose from a list of direct routing destinations.

- Second, we do not internalize orders. We believe that turning all client orders back to the market is more transparent and better aligned with the needs of our clients.
- Instead, we work with multiple market centers, which are selected after extensive due diligence where execution quality is a top priority, in addition to a litany of other variables such as system capacity and performance, order handling protocols, risk controls, capitalization and business continuity procedures.
- And third, we evaluate market center stability, execution quality and consistency every day. We hold our market centers to a very high standard, and in the event that there is a degradation, we adjust accordingly.

55. Not only did Defendants purportedly follow this multi-step strategy for seeking “the most favorable terms” for TD Ameritrade’s clients’ orders, they also claimed to have a committee dedicated to assuring best execution for its clients, as Mr. Quirk testified to before the Senate Subcommittee, and as Jiganti confirmed he was a part of in the February 2013 interview with *Traders Magazine*. But in actuality, TD Ameritrade’s multi-step strategy and best execution committee were simply hiding the one consideration that determined where a client’s trade would ever be routed by TD Ameritrade – where TD Ameritrade obtained the highest payments for routing its clients’ orders.

56. Mr. Quirk’s written testimony for the Senate Subcommittee regarding TD Ameritrade’s best execution obligation concludes by underscoring that best execution is prioritized before any consideration of payments from market venues for TD Ameritrade’s clients’ orders:

After, and only after a market center satisfies our standards for providing best execution, do we consider transaction costs or revenue opportunities. Regardless, the payments we receive from market participants do not interfere with our efforts to seek quality execution and optimize the value proposition for our clients. Best execution comes first.

57. But Defendants’ public statements and the promises made in the TD Ameritrade Client Agreement regarding compliance with best execution were materially false and misleading because Defendants virtually always routed client orders based on where TD Ameritrade would receive the highest return either in payments for order flow or in liquidity rebates.

58. Without Defendants' representations and contractual promises to abide by the statutory duty of best execution for its TD Ameritrade's clients' orders, plaintiff and the other Class members would not have placed their trades through TD Ameritrade, nor paid it commissions to do so. Plaintiff and Class members would have instead placed their orders through another broker who would carry out its promise and duty to provide best execution.

**Defendants Routed Orders to the Highest Bidders,
Not Based on Best Execution**

59. According to a TD Ameritrade whistleblower, Defendants systematically directed TD Ameritrade's clients' order flow to whichever exchange or market venue offered it the best price. Chris Nagy was the former Managing Director of Order Routing & Market Data Strategy at TD Ameritrade until 2012. As recounted in *Flash Boys*, by Michael Lewis, Nagy knew the simple retail stock market order made by TD Ameritrade's clients was "easy kill" from the high-frequency traders' perspective. As he put it, "Whose order flow is the most valuable? . . . Yours and mine. We don't have black boxes. We don't have algo[rithm]s. Our quotes are late to the market – a full second behind."⁹ Thus, people from banks and HFT firms flew into Omaha to court TD Ameritrade for its order flow. Nagy described the negotiations he was involved in, which were done face-to-face to prevent a paper trail: "Most of the deals tend to be handshake deals. . . . You go out to a steak dinner. 'We'll pay you two cents a share. Everything is good.'"¹⁰ He added: "The payment for the order flow is as off-the-record as possible They never have an email or even a phone call. You had to fly down to meet us."¹¹

60. Meanwhile, as Defendants were negotiating kickbacks based on TD Ameritrade client orders, TD Ameritrade clients were not receiving their due under the Client Agreement. Among

⁹ Michael Lewis, *Flash Boys: A Wall Street Revolt* 181 (2014) ("*Flash Boys*").

¹⁰ *Id.* at 180.

¹¹ *Id.*

other effects, including some orders *losing even the opportunity to be filled at all*,¹² other trades lost the opportunity for maximum price improvement. TD Ameritrade does not disclose how much price improvement – if any – its clients’ trades earn. Thus, Defendants can disguise the fact that they are not routing trades based on best execution.

Defendants Admitted to Large Profits Earned from Routing Client Trades to the Highest Bidders

61. TD Ameritrade must disclose on Rule 606 Reports filed quarterly with the SEC which venues were the top ten venues receiving the most order flow and “a description of any arrangement for payment for order flow and any profit-sharing relationship.” 17 C.F.R. §242.606.

62. According to the Rule 606 Report filed for the second quarter of 2014, defendant TDAI routed over half of its market orders for securities listed on the NYSE to just two wholesale market makers, Citi Global Markets (“Citi”) and Citadel Execution Services (“Citadel”), where it received an average of \$0.0019 and \$0.0021, respectively, per share in payments for order flow. TDAI routed almost half, 47%, of its limit orders for securities listed on the NYSE to Direct Edge, a stock exchange that began as an ECN.¹³ TD Ameritrade’s Rule 606 Reports do not distinguish between marketable and nonmarketable limit orders. However, in the information provided on the report regarding Direct Edge, TD Ameritrade discloses that TDAI “receives payment from Direct Edge for orders that add liquidity to this venue and are subsequently executed. The rate for adding liquidity for the second quarter 2014 for listed securities was as high as \$0.0035 per share. [TDAI] is charged for removing liquidity from this venue. The rate for removing liquidity for the second quarter 2014 was as high as \$0.0029 per share.” Since TDAI did not route any market orders to Direct Edge, thereby avoiding the \$0.0029 taker fee for market orders, the inference can be made

¹² See Robert Battalio, *et al.*, *Can Brokers Have it All? On Relation between Make-Take Fees And Limit Order Execution* (Mar. 5, 2014) (“Battalio”).

¹³ On January 31, 2014, BATS Global Markets, Inc. completed the acquisition of Direct Edge Holdings LLC (“Direct Edge”).

that TDAI also did not route marketable limit orders to Direct Edge. Instead, TDAI collected the \$0.0035 maker fee on 47% of the nonmarketable limit orders it routed for clients.¹⁴

63. The Rule 606 Report for defendant TDAC tells a similar story. Fifty percent of TDAC's market orders for securities listed on the NYSE went to just two wholesale market makers, Citi and UBS Securities, LLC ("UBS"), from which TDAC received payment for order flow that average \$0.0019 and \$0.0020, respectively, per share. None of TDAC's market orders went to Direct Edge, with whom TDAC had the same pricing structure as TDAI, while 55% of its limit orders for securities listed on the NYSE were routed there – suggesting, again, that all of these limit orders were nonmarketable in order to benefit from the maker rebate and avoid the taker fee. Defendants TDAI and TDAC reported similar percentage and pricing breakdowns for securities listed on NASDAQ and on the NYSE MKT or Regional Exchanges.

64. Since Rule 606 only required disclosure of earnings from each venue on a per share basis, Defendants could for years obscure the vast sums TD Ameritrade received as kickbacks for selling its clients' order flow. This proved especially advantageous to Defendants with the rise of high-frequency trading. Indeed, according to Nagy, since HFT raised the value of the client's order, "[i]t caused the value of our flow to triple, a least [sic]."¹⁵ Exchanges and other market venues such as dark pools, which made money per executed trade, sought to encourage HFT firms to come to their venues. To entice them, they paid for and provided the "dumb" money for the HFT firms to trade against. Defendants, seeking to maximize their own profits rather than their clients', always routed orders to the market venue that paid the most for the "dumb" money TD Ameritrade could provide.

¹⁴ See also ¶67, *infra*.

¹⁵ *Flash Boys* at 180.

65. On June 12, 2014, *TD Ameritrade disclosed for the first time the total revenue the Company earned on payments for order flow*, which it euphemistically referred to as “revenue sharing.” In a news release filed on a Form 8-K with the SEC, TD Ameritrade admitted that it had pocketed \$236 million, \$184 million and \$185 million for fiscal years 2013, 2012 and 2011, respectively, totaling \$605 million – earned on orders TD Ameritrade was supposed to be routing for “best execution.”

66. TD Ameritrade issued that news release in advance of the hearing on June 17, 2014 before the Senate Subcommittee at which Mr. Quirk testified. During questioning by Senator Levin, Mr. Quirk admitted that TD Ameritrade receives payments on almost every trade it makes for its clients:

Senator LEVIN: Mr. Quirk, I understand that your company, TD Ameritrade, sends marketable orders which would incur a fee if sent to an exchange to a wholesale broker dealer. Is that correct?

Mr. Quirk: That is correct.

Senator LEVIN: And that the broker-dealer pays Ameritrade for those orders. Is that correct?

Mr. Quirk: That is correct.

Senator LEVIN: And that you send nonmarketable orders, which are the ones that are eligible for rebates, for rebates to exchanges. Is that correct?

Mr. Quirk: That is correct.

Senator LEVIN: *And is it correct that TD Ameritrade receives payment either from a wholesale broker as payment for order flow or from an exchange as a rebate on nearly every trade completed?*

Mr. Quirk: I would not say on every trade completed –

Senator LEVIN: I said “nearly every.”

Mr. Quirk: *Nearly every trade, yes.*

Senator LEVIN: All right. On nearly every trade, TD Ameritrade receives two payments: one is the commission paid by the customer, and another is from the venue where the trade is executed.

67. Addressing TD Ameritrade's preference for Direct Edge, the exchange to which the Company routes clients' nonmarketable limit orders and receives maker rebates, Senator Levin elicited this testimony:

Senator LEVIN: Now, we looked at your form 606 quarterly order routing disclosures for the quarter covered in the Battalio paper, and according to those disclosures, for the quarter covered in that paper, which was the ***fourth quarter of 2012***, TD Ameritrade directed all nonmarketable customer orders to one venue in that quarter, Direct Edge. Is that correct?

Mr. Quirk: That is correct.

Senator LEVIN: Now, among all the exchanges, Direct Edge paid the highest rebate during the fourth quarter of 2012, which is, again, the period covered by the Battalio paper, and you say that the orders, it was your policy, are directed first and foremost on the basis of best execution. But as we have learned today, best execution is a subjective judgment

So your subjective judgment as to which market provided best execution for tens of millions of customer orders a year, about 8 million in a quarter, ***allowed you to route all of the orders to the market that paid you the most. Now, I find that to be, frankly, a pretty incredible coincidence.***

Now, you directed all your orders for that quarter to Direct Edge because what you said is that that exchange offered your company the best execution. The disclosure did not show a single order being directed to the New York Stock Exchange, for instance. So Mr. Farley [President, NYSE Group], was the New York Stock Exchange just consistently worse than Direct Edge in getting best execution on retail orders?

Mr. Farley: No.

Senator LEVIN: And, Mr. Quirk, how much did TD Ameritrade receive in rebates from exchanges last year for routing orders to venues that pay maker rebates? ***Do you know how much you made just from payment for order flow in rebates?***

Mr. Quirk: ***I can estimate it was [sic] based on what we've discussed -- would be about \$80 million.***

68. As summed up by Senator Levin regarding TD Ameritrade's routing of nonmarketable orders to exchanges, despite TD Ameritrade's promise to achieve best execution on its clients' trades, its virtually always routed to the venue that paid the most:

Mr. Quirk: I would say in the subsequent 24 months, you will note in our 606s that we have routed to a number of exchanges in one quarter, and some of those exchanges would not be the exchanges which were paying the highest rate.

Senator LEVIN: Well, let me go into that. In your 606 disclosures, for the first quarter of 2014, TD Ameritrade routed all disclosed non-marketable orders to either Direct Edge or Lavaflow, the exchanges that appear from our review of your disclosures to have offered the highest rebates available in the market. Is that true?

Mr. Quirk: That would be true.

Senator LEVIN: And so, again, *your subjective judgment as to which market provided best execution for tens of millions of customer orders virtually always led you to route orders to the markets that paid you the most.*

Mr. Quirk: No, it would not have always led us –

Senator LEVIN: I said “virtually always.”

Mr. Quirk: *Virtually, yeah.*

69. As admitted before the Senate Subcommittee, Defendants virtually always routed TD Ameritrade’s clients’ orders based on which venue paid TD Ameritrade the most for its clients’ trades. Despite all of Defendants’ assertions to the contrary, best execution is an afterthought to Defendants’ real motivation to seek payments from the highest bidder. Indeed, as Senator Levin points out, that order routing based on best execution should always result in orders routed to where TD Ameritrade is paid the most is “frankly, a pretty incredible coincidence.” Sarcasm aside, it is no coincidence at all.

By Routing Clients’ Orders Based on Obtaining Payments for Order Flow and Liquidity Rebates, Defendants Failed to Provide Best Execution for TD Ameritrade Clients and Left Clients’ Orders Open to Manipulation by HFT

70. By routing clients’ trades for their own gains, Defendants not only failed to provide best execution, but also left TD Ameritrade’s clients’ trades open to manipulation by HFT.

71. Wholesale market makers that provided TD Ameritrade payment for order flow on their marketable orders used the retail investors’ trades to provide liquidity for their own proprietary and high frequency operations conducted in their dark pools – as opposed to “lit” exchanges where

the quotes are publicized. Within the dark pools, HFT firms can hide the manipulations perpetrated on retail investors, such as plaintiff and the other Class members. These dark pools are also the site of market makers' internalization. Internalization is a strategy by market makers where, the more trades they obtain, the more they can match buy and sell orders in-house, entirely avoiding the fees charged by exchanges and ECNs. This not only allows the wholesale market makers to keep the commissions for themselves, but under cover of the dark pools, market makers can trade against their own clients.

72. In his 2012 book, *Dark Pools*, Scott Patterson, described the "internalizers":

Then there were the *internalizers*. Hedge funds such as Citadel Investment Group, based in Chicago, a giant New Jersey shop called Knight Trading, and banks such as Citigroup or . . . UBS *bought orders* from retail brokers such as TD Ameritrade, Charles Schwab, and E*Trade and executed the trades inside their own computer pools. They matched buy and sell orders "internally," rather than route them to an exchange. A day trader snapping up a hundred shares of Apple from her home office account had little chance of ever actually trading on the NYSE; instead, she was interacting with a sophisticated program crafted by a team of Ph.D. quants working for a giant Chicago hedge fund or a secretive desk within a Swiss bank. The effect was to remove from the rest of the market the mom-and-pop retail flow and segregate it within isolated pools. And while the internalizers bragged about the quality of their execution, investors using those systems would have been wise to wonder just *why* a Chicago hedge fund or Swiss bank wanted to pay millions of dollars a year for their orders.

Id. at 45.

73. The retail investors' orders, obtained by paying brokers like TD Ameritrade payment for order flow, gave the wholesale market makers and their HFT operations liquidity to execute trades for the benefit of their own accounts – to the detriment of retail investors. For example, Citadel, one of the market makers that pays for TD Ameritrade's order flow, operates one of the world's top HFT operations, called Tactical Trading. By April 2014, Tactical Trading's fund had reportedly grown 300% since its start in 2007. UBS, another market maker that pays for TD Ameritrade's order flow, as of this filing, has the largest dark pool, or "Alternative Trading System," based on the total number of trades. And in July 2014, UBS disclosed that regulators, including the

SEC, FINRA and the New York Attorney General, were investigating its dark pool for predatory trading. By routing TD Ameritrade's clients' marketable orders to maximize payments for order flow, Defendants routed orders to some of the top manipulators of the securities markets and abusers of retail investors' trades.

74. Likewise, by routing TD Ameritrade's clients' nonmarketable orders to exchanges, particularly Direct Edge, which paid TD Ameritrade the highest liquidity rebates, TD Ameritrade's clients' trades were vulnerable to HFT abuses and therefore lost opportunities to maximize price improvement on their trades, if their trades were even able to execute at all. As an example of Direct Edge's practices catering to HFT firms at the expense of retail investors like TD Ameritrade's clients, Direct Edge only disclosed to a select group of predatory HFT firms its unfair order types, which allowed high-frequency traders to jump to the head of the queue ahead of retail investors (or seemingly disappear from the head of the line if the trade moved against them). Additionally, Direct Edge often only marketed its enhanced data feeds and co-location services (by which computers owned by HFT firms are housed in the same premises where the exchanges' computer servers are housed, giving the HFT firms access to stock prices a split second before the rest of the market) to those who could afford them – the HFT firms. And even assuming all market participants had access to all of Direct Edge's services, Direct Edge's CEO himself admitted in a June 2012 press release that “[t]he process for acquiring and using this [market] data is currently cumbersome and expensive,” and “entails significant fixed costs even before any explicit exchange market data fees are paid, with total costs for retail firms of upwards of \$1 million or more per month. This leads to such information being restricted to investors, creating the perception of ‘haves’ and ‘have nots.’”

75. As a result of its conduct, Direct Edge has come under the microscope of regulators. In March 2012 it was reported by *The Wall Street Journal* that the SEC was “examining the communications between some rapid-fire trading firms and Direct Edge Holdings LLC.” In early

August 2014 it was reported that BATS was in advanced talks with the SEC to settle allegations that it and Direct Edge, with whom BATS completed a merger in January 2014, gave unfair advantages to high-speed traders, including creating and providing order types that gave HFT firms an edge over other investors in their markets. Direct Edge's former CEO was reportedly ousted from BATS in large part because of the SEC investigation, forthcoming settlement and related public misstatements surrounding the data feeds BATS utilizes to price stock trades on its exchanges. As revealed by these investigations, TD Ameritrade's clients' nonmarketable limit orders, routed to Direct Edge to maximize liquidity rebates, were up against a trading environment skewed in favor of HFT.

76. A recent academic study conducted by Robert Battalio, Shane Corwin and Robert Jennings further confirmed that brokerages, including TD Ameritrade, route nonmarketable limit orders to an exchange "that offers the highest liquidity rebates does not appear to be consistent with the objective of obtaining best execution."¹⁶ The study found that when brokers route orders based on higher liquidity rebates, their retail clients' nonmarketable limit orders filled slower and less often than similar orders on venues offering lower liquidity rebates. Using realized spreads to provide an estimate of the gross revenue earned by liquidity providers (the nonmarketable limit orders), the Battalio study found the lowest realized spreads occurred on the highest fee venues (highly correlated with the high rebate venues). *In other words, when routed to maximize liquidity rebates, the orders do not see the price improvement they otherwise would if routed to venues offering lower liquidity rebates.* The study concluded, "Taken together, our results point to a strong negative relation between take fees and several measures of limit order execution quality. *Based on this evidence, we conclude that the decision of some national brokerages to route all nonmarketable limit orders to a single exchange paying the highest rebate is unlikely to be consistent with the broker's responsibility to obtain best execution for customer orders.*" *Id.* at 5.

¹⁶ Battalio, *supra*, at 31.

77. Notably, the authors pointed out that based on their analysis of Rule 606 Reports for the fourth quarter of 2012, TD Ameritrade “*route[s] orders in a way that suggests a focus on liquidity rebates,*” specifically by routing orders to EDGX, a Direct Edge exchange, which has the highest published liquidity rebates. *Id.* at 11.

78. In his prepared testimony for the Senate Subcommittee on June 17, 2014, Mr. Battalio reiterated the study’s findings:

Thus, on average, we expect that limit orders sent to venues with high take fees will have lower fill rates and suffer greater adverse selection costs – they are more likely to trade when the price moves against them and less likely to trade when prices move in their favor. This suggests that *brokers routing limit orders to venues with the highest take fees (and make rebates) may not be obtaining best execution for their clients. It is also important to note that investors whose orders go unfilled cannot be made whole through lower commissions, because their orders do not trade.*

79. The result of Defendants’ failure to fulfill the best execution duty required by contract and regulation, and instead routing orders to maximize payment for order flow and liquidity rebates, is that TD Ameritrade’s clients’ orders were prone to HFT manipulation, filled more slowly and with less price improvement, and were more likely to be incompletely filled, if they were filled at all. TD Ameritrade clients lost significant opportunities to profit on their trades as Defendants routed their clients’ orders for their own benefit.

TD Ameritrade Reaped Large Profits from Routing Client Trades

80. At the end of its fiscal year 2013, TD Ameritrade boasted that it held nearly six million client accounts and executed over 90 million client trades, averaging over 370,000 client trades per day. During the month of February 2014, average client trades per day ballooned to a record 501,000. On almost every single trade, as Mr. Quirk’s testimony confirms, TD Ameritrade received payments for its order flow.

81. Further, as disclosed by TD Ameritrade in its Form 10-K filed with SEC on November 22, 2013, TD Ameritrade earned most of its revenues from commissions and transaction

fees – \$1.170 billion in fiscal 2013, up 8% from fiscal 2012 at \$1.087 billion. TD Ameritrade attributed the increase “primarily . . . to higher payment for order flow revenue per trade.”¹⁷ TD Ameritrade did not disclose in that filing, or in any other public filing prior to its disclosure on June 12, 2014, how much the Company made from payments for order flow. And TD Ameritrade has never disclosed the Company’s profits from liquidity rebates. Nor did it disclose that it routed its clients’ orders based on what it could be paid for its clients’ orders, rather than (as required by federal regulation and its own Client Agreement, and as falsely represented by Defendants) observing the duty of best execution.

**TD Ameritrade Has Been Wrongfully Enriched
by Its Breach of Contract**

82. As alleged above, TD Ameritrade has reaped large profits by routinely breaching its promise in the Client Agreement to consider a “wide variety of factors” when routing client orders. By “virtually always” routing order flow to the highest bidder – in violation of its best execution duty and to the detriment of its clients – TD Ameritrade has earned \$605 million in the last three fiscal years from payment for order flow and approximately \$80 million in the last year from maker or liquidity rebates.

**Plaintiff and the Class Have Been Damaged by
TD Ameritrade’s Breach of Contract**

83. TD Ameritrade’s breaches of contract have caused economic injury to plaintiff and the Class, in an amount to be determined at trial, insofar as plaintiff and the Class have not received the best execution on their trades, but rather the execution that was best monetarily for TD Ameritrade. Moreover, Defendants’ wrongful conduct in seeking out the highest payment for their clients’ order flow exposed their clients’ trades to toxic high-frequency trading, putting at risk that

¹⁷ TD Ameritrade, Annual Report (Form 10-K), Nov. 22, 2013, at 37.

the trades would execute at the best price, or would possibly not trade at all, resulting in lost profit and lost opportunities for the class.

COUNT I

Breach of Contract Against Defendants TDAH, TDAC and TDAI

84. Plaintiff incorporates the allegations set forth above as if fully set forth herein.

85. Plaintiff and the Class executed written contracts (the Client Agreement) with TD Ameritrade, a form of which is attached hereto as Exhibit A, and exchanged valuable consideration therein for every trade executed.

86. Pursuant to the terms of the Client Agreement, TD Ameritrade promised to consider “a wide variety of factors in determining where to direct [its clients’] orders, such as execution price, opportunities for price improvement, . . . market depth, order size and trading characteristics of the security, efficient and reliable order handling systems and market center service levels, speed, efficiency, accuracy of executions, and the cost of executing orders at a market.”

87. TD Ameritrade committed a material breach of this promise. Rather than consider those factors in evaluating execution quality for routing client orders, TD Ameritrade routed virtually all of its clients orders based on the venue that paid the most to TD Ameritrade.

88. Plaintiff and the Class have been damaged as a result of TD Ameritrade’s failure to execute its clients’ trades in a manner complying with the Client Agreement and the duty of best execution, while TD Ameritrade has earned significant, wrongful profits from these material and opportunistic breaches. Defendants’ breach warrants an assessment of damages, in an amount to be determined at trial.

COUNT II

Fraud by Intentional Misrepresentation or Omission Against All Defendants

89. Plaintiff incorporates the allegations set forth above as if fully set forth herein.

90. Defendants, through their agents, employees and/or subsidiaries, made materially false representations and omissions to plaintiff and the Class that TD Ameritrade routed trade orders based on the consideration of numerous factors and in compliance with the duty of best execution, as alleged above.

91. These material misrepresentations and omissions were contained in the Client Agreement and various other public statements on TD Ameritrade's website. These and similar material misrepresentations and omissions were further reiterated and disseminated by TD Ameritrade's executives, including defendants Tomczyk and Jiganti and Mr. Quirk, and its other officers, agents, representatives, servants or employees of Defendants acting within the scope of their authority.

92. Defendants knew or recklessly disregarded the false and misleading nature of their representations and omissions.

93. Defendants made the materially false and misleading statements and omissions for the purpose of inducing plaintiff and the other members of the Class to obtain brokerage accounts with TD Ameritrade and to place their trade orders through TD Ameritrade for a fee.

94. In opening brokerage accounts with TD Ameritrade, placing trade orders through TD Ameritrade, and paying commissions for those trades, plaintiff and the Class reasonably relied on Defendants' materially misleading statements and omissions that their trades would be routed according to TD Ameritrade's best execution duty.

95. As a result of defendants' materially false and misleading misrepresentations and omissions, plaintiff and the Class sustained damage when their trades were not routed to obtain best execution, and were sent to venues where they were exploited by HFT. As a result, plaintiff and the other Class member missed opportunities to profit when their trades failed to be executed, failed to be fully filled, or failed to obtain the best price improvement.

COUNT III

Negligent Misrepresentation Against All Defendants

96. Plaintiff incorporates the allegations set forth above as if fully set forth herein.

97. Defendants, through their agents, employees and/or subsidiaries, negligently and/or recklessly made materially false representations and omissions to plaintiff and the Class that TD Ameritrade routed trade orders based on the consideration of numerous factors and in compliance with the duty of best execution, as alleged above.

98. These material misrepresentations and omissions were contained in the Client Agreement and various public statements on TD Ameritrade's website. These and similar material misrepresentations and omissions were further reiterated and disseminated by TD Ameritrade's executives, including defendants Tomczyk and Jiganti and Mr. Quirk, and its other officers, agents, representatives, servants or employees of Defendants acting within the scope of their authority.

99. Defendants made the materially false and misleading statements and omissions for the purpose of inducing plaintiff and the other member of the Class to obtain brokerage accounts with TD Ameritrade and to place their trade orders through TD Ameritrade for a fee.

100. In opening brokerage accounts with TD Ameritrade, placing trade orders through TD Ameritrade, and paying commissions for those trades, plaintiff and the Class reasonably relied on Defendants' materially misleading statements and omissions that their trades would be routed according to TD Ameritrade's best execution duty.

101. As a result of Defendants' materially false and misleading misrepresentations and omissions, plaintiff and the Class sustained damage when their trades were not routed to obtain best execution, and were sent to venues where they were exploited by HFT. As a result, plaintiff and the other Class members missed opportunities to profit when their trades failed to be executed, failed to be fully filled, or failed to obtain the best price improvement.

COUNT IV

**Violations of Nebraska's Consumer Protection Act,
Neb. Rev. Stat. §59-1601 *et seq.*, Against Defendants TDAH, TDAC and TDAI**

102. Plaintiff incorporates the allegations set forth above as if fully set forth herein.

103. Plaintiff, on behalf of himself and the Class, brings this claim for violations of Nebraska's Consumer Protection Act pursuant to Nebraska Rev. Stat. §59-1601 *et seq.* (the "NCPA").

104. Pursuant to Nebraska Rev. Stat. §59-1602, "[u]nfair methods of competition and unfair or deceptive acts or practices in the conduct of any trade or commerce shall be unlawful."

105. TD Ameritrade's conduct at issue constitutes trade or commerce within the meaning of the NCPA. Plaintiff and members of the Class are persons within the meaning of the NCPA.

106. TD Ameritrade's practices at issue have an impact not only on plaintiff and the Class (including many persons within the state of Nebraska), but also the public interest, including by maintaining transparency, fairness, and trust in the financial markets. In his opening remarks before the Senate Subcommittee, Senator Levin observed that "even Americans without a single share of stock or a mutual fund account have something at stake [when conflicts of interest are embedded in the financial market structure] because stock markets exist to foster investment, growth and job creation. Conflicts of interest jeopardize that vital function."

107. By failing to comply with the duty of best execution, including by routing the plaintiff's and the other Class members' trades to the exchange or market venue that paid TD Ameritrade the highest kickback, TD Ameritrade has engaged in unfair methods of competition and unfair acts or practices in violation of the NCPA. Such conduct is substantially injurious to consumers, offends public policy and practice, violates established concepts of duty and fairness, and is immoral, unethical, oppressive, and unscrupulous. Further, TD Ameritrade continues to engage in this unfair conduct.

108. Pursuant to the NCPA, plaintiff and the Class are entitled to an injunction enjoining TD Ameritrade from continuing its unlawful conduct, including prohibiting TD Ameritrade from considering payment for order flow or liquidity rebates when performing best execution for its clients' orders, or, in the alternative, TD Ameritrade should be required to pass on the remunerations in payment for order flow and liquidity rebates it receives to its clients as a result of routing their orders to the highest bidder. Further, pursuant to Nebraska Rev. Stat. §59-1609, plaintiff and the Class are entitled to actual damages, pray that the Court increase the award of damages, and seek to recover the costs of the suit, including reasonable attorneys' fees.

COUNT V

Aiding and Abetting Against All Defendants

109. Plaintiff incorporates the allegations set forth above as if fully set forth herein.

110. Each of the Defendants aided and abetted each of the other Defendants' violations of law alleged herein.

111. This claim is alleged in the alternative to each Count against Defendants to the extent such claim does not proceed.

112. Defendants knew of each of the other Defendants' violations of laws and substantially assisted in such violations.

113. Plaintiff was damaged thereby.

PRAYER FOR RELIEF

WHEREFORE, plaintiff prays for judgment as follows:

A. Declaring this action to be a class action properly maintained pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure;

B. Entering judgment in favor of plaintiff and the Class against defendants;

C. Awarding to plaintiff and the Class damages, restitution of commissions on all trades, and/or disgorgement of profits from payments for order flow and liquidity or maker rebates earned

from their material and opportunistic breaches of contract and misrepresentations regarding TD Ameritrade's compliance with best execution;

D. Awarding an injunction prohibiting Defendants from continuing to violate the duty of best execution by basing order routing decisions on maximizing payments from TD Ameritrade's clients' trades, namely through payments for order flow and liquidity rebates;

E. Granting extraordinary equitable and/or injunctive relief as permitted by law, equity and state statutory provisions sued hereunder, including attaching, impounding and imposing a constructive trust on or otherwise restricting the proceeds of Defendants' trading activities or their other assets so as to assure that plaintiff has an effective remedy;

F. Awarding plaintiff the costs and disbursements of the action, including reasonable attorneys' fees, accountants' and experts' fees, costs, and expenses; and

G. Granting such other and further relief, including punitive damages, as the Court deems just and proper.

JURY DEMAND

Plaintiff demands a trial by jury of all issues which are subject to adjudication by a trier of fact.

DATED: October 31, 2014

DOMINA LAW GROUP pc llo
BRIAN E. JORDE

/s/ Brian E. Jorde

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Attorneys for Plaintiff

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Client Agreement

PO Box 2760 ■ Omaha, NE 68103-2760

Fax: 866-468-6268

1. INTRODUCTION

This Agreement governs all brokerage accounts that I open with you, all transactions in my Account, the use of your websites, the Brokerage Services, the TD Ameritrade Content, and the Third-Party Content; is binding on my heirs, executors, administrators, successors, and assigns; and will inure to the benefit of your successors. By opening an Account with you, I acknowledge that I have received, read, and understand this Agreement and agree to be bound by its terms. Accounts opened with the TD Ameritrade Institutional Division are governed by a separate agreement.

"I," "me," "my," or "account owner" means each account owner who signs the Account Application. "You," "Your," or "TD Ameritrade" means TD Ameritrade, Inc., a wholly owned subsidiary of TD Ameritrade Holding Corporation, and, when applicable, TD Ameritrade Clearing, Inc. ("Clearing"), TD Ameritrade's clearing broker/dealer.

2. DEFINITIONS

"Account" means each brokerage account I open with you or have an interest in.

"Agreement" means these terms and conditions as well as any supplemental agreements and disclosures that apply to my Account, as amended from time to time.

"Applicable Rules" means all applicable federal and state laws, rules and regulations, rules of any self-regulatory organization, and the constitution and applicable rules, regulations, customs, and usages of the exchange or market and its clearinghouse.

"Brokerage Services" means your website and related services that you provide other than TD Ameritrade Content, which I need to place trades in my Account.

"Business Day" means Monday through Friday, excluding market holidays.

"Services" means, collectively, the websites, the Brokerage Services, the TD Ameritrade Content, and the Third-Party Content. This Agreement applies to the Services provided by you regardless of how I access them (for example, in person, phone, Internet, or by mobile device).

"TD Ameritrade Content" means all information, tools, and services available on your website, other than Brokerage Services provided by you, and not by a third party.

"Third-Party Content" means all information, tools, and services available on your website that are provided by a third party ("Third-Party Provider"), including financial and investment tools, market data, reports, alerts, calculators, access to online conferences, telecasts, bulletin boards, tax preparation, or account management tools.

"websites" means the Internet sites of TD Ameritrade, whose domain name is registered as <http://www.tdameritrade.com>, and others, and through which you offer Services.

3. MY ACCOUNT AND RELATIONSHIP WITH YOU

a. Self-Directed Account. I understand that Accounts opened with you are self-directed. I am responsible for all purchase and sell orders, decisions to continue with an investment strategy or to hold an investment, and instructions placed in my Account. Unless you provide advice to me that is clearly identified by you as an individualized recommendation for me, any investment decision that I make or investment strategy that I utilize, including the decision to hold any and all of the securities or derivatives in the Account, is based on my own investment decisions or those of my agent and is at my own risk. All investments involve risk, and unless you provide individualized recommendations to me, I or my agent are responsible for determining the suitability of any trade, investment, investment strategy, and risk associated with my investments. TD Ameritrade Content or Third-Party Content I access through you does not constitute a recommendation to invest in any security or derivative, or to utilize any investment strategy.

b. Fees and Commissions. I will pay commissions, charges, taxes, and other fees applicable to my Account. Current commission pricing and other fees are on the websites. You may change your fees and commissions at any time by posting changes on the websites or by other means.

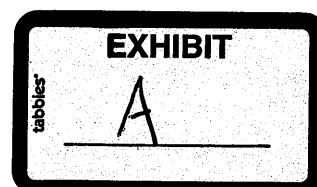
You reserve the right to vary commissions among clients in connection with special offers or combinations of services or in other circumstances. You or Clearing may pay a portion of the revenues or fees derived from servicing my Account to third parties that provide services to you or Clearing. If my Account is an IRA or other retirement plan account, my Account may be charged fees that the particular plan has authorized to be paid to service providers other than you or Clearing.

c. Statements and Confirmations. It is my obligation to review trade confirmations and Account statements promptly upon receipt. These documents will be considered binding on me unless I notify you of any objections within five days from the date confirmations are sent and within 10 days after Account statements are sent.

d. Instructions.

1. General. You may accept and act on instructions from me, my agent, or any person authorized on my Account. You may refuse any order, or delay placing any order, if you determine that an order requires clarification from me. I will not hold you responsible for any losses caused by the rejection or delay. You will not receive any order or instruction transmitted by my agent or me until you have actual knowledge of the order or instruction. You do not determine the validity of my agent's status or capacity, the appropriateness of, or the authority or actions by such person.

2. Wire Transfers. By initiating a wire transfer from my Account with or without a letter of instruction, I agree that you may use security procedures for accepting and acting upon wire transfer instructions. I agree that such security procedures may include one, some or all of the following, depending on the type, amount, and frequency of the wire transfer request: requestor and/or account owner identification and verification; requestor and/or account owner signature comparison or verification; confirmation of receiving bank and/or account designation; notice provided via email, message center or phone to account owner and/or authorized agent; account surveillance and/or trending analysis. In some circumstances, you may place limits on the portability of funds and additional documentation may be required.



I agree that the above security procedures are commercially reasonable under the circumstances. I agree to be bound by instructions to initiate a wire transfer, with or without a letter of instruction, whether in fact authorized or unauthorized, which you implement in compliance with these procedures, unless I have given you prior notice of possible unauthorized activity in my Account and you have a reasonable opportunity to act on such notice.

e. No Endorsement of Day Trading Strategy. You do not recommend, endorse, or promote a "day trading" strategy, which may involve significant financial risk to me.

f. Clearing Agreement. You and Clearing have entered into a clearing agreement in which Clearing is the clearing agent for securities transactions for your clients. You transmit client instructions to Clearing which causes such instructions to be executed. Clearing carries my Account on a fully disclosed basis. All securities, dividends, and proceeds will be held at Clearing unless otherwise instructed.

g. Account Protection. You are a member of the Securities Investor Protection Corporation ("SIPC"), which protects securities customers of its members up to \$500,000 (including \$250,000 for claims for cash). An explanatory brochure is available on request at www.sipc.org. Additionally, you provide each client \$149.5 million worth of protection for securities and \$2 million of protection for cash through supplemental coverage provided by London insurers. In the event of a brokerage insolvency, a client may receive amounts due from the trustee in bankruptcy and then SIPC. Supplemental coverage is paid out after the trustee and SIPC payouts and under such coverage each client is limited to a combined return of \$152 million from a trustee, SIPC, and London insurers. The TD Ameritrade supplemental coverage has an aggregate limit of \$500 million over all customers. This policy provides coverage following brokerage insolvency and does not protect against loss in market value of the securities.

To obtain information about the SIPC, including the SIPC brochure, I can contact the SIPC at:

Securities Investor Protection Corporation
805 15th St, N.W., Suite 800
Washington, D.C. 20005-2215

Tel: 202-371-8300
Fax: 202-371-6728
Email: asksipc@sipc.org
Website: www.sipc.org

h. Compliance with Laws. I agree to comply with all laws, rules, and regulations applicable to my Account.

4. ABOUT ME

a. Legal Capacity. I am of legal age in the jurisdiction in which I reside and have the capacity and authority to enter into this Agreement.

b. Accuracy of Information. All the information I provide you is true and correct. I will promptly notify you in writing within 10 Business Days after any change in such information. You may rely upon all information I provide you.

c. Interest in Account. I represent that no one except me (us) has an interest in any of my (our) Account(s) (unless I am opening the Account as a fiduciary).

d. Multiple Owners. If there is more than one Account owner, then the provisions of the Agreement apply to each owner. Accounts of husbands and wives in community property states will be held in the name of husband and wife as community property unless we instruct you otherwise; any other Joint Account will be held jointly with rights of survivorship unless I notify you of a different form of ownership and provide such documentation as you require. You will have no liability for any loss that may arise due to taking instructions from one owner or requiring instructions from all owners. If I am married, I may establish an account with my spouse as tenants by entirety. I will notify you if I become legally divorced.

e. Rights, Terms, and Obligations of Securities in Account. Except as required by Applicable Rules, you are not obligated to notify me of any events involving my securities positions, nor do you have the responsibility to take any actions on my behalf with respect to such events without specific instructions from me. I am responsible for knowing the rights, terms, and obligations of securities in my Account and for monitoring the occurrence of any events involving my securities positions or securities for which I intend to place an order.

5. PRIVACY AND CONFIDENTIALITY

a. Privacy. You will take reasonable measures to protect the privacy and confidentiality of information in your possession about my Account and me. Your Privacy Statement explains how you collect and protect my information. The Privacy Statement is incorporated into this Agreement by reference.

b. Account Number, PIN, or Password. I will receive a password and/or access number (collectively "PINs") that provides electronic access to my Account. Account numbers, UserIDs, and PINs are confidential, and I am responsible for the confidentiality, protection, and use of them. Subject to the TD Ameritrade Asset Protection Guarantee, I agree to be responsible for all activities in my Account. You may be assured that I have authorized any orders or instructions that are received under my Account number and PIN or by initiating an electronic transfer of funds, with or without a letter of instruction.

c. TD Ameritrade Asset Protection Guarantee. If I lose cash or securities from my Account due to unauthorized activity, you will reimburse me for the cash or securities I lose. You promise me this protection if unauthorized activity causes losses and you determine it was through no fault of my own. You promise this protection if I do four things: (1) keep my personal identifying information and Account information secure and confidential—because sharing my UserID, password, PIN, Account number, or other standard means of authentication with other people means I authorize them to take action in my Account; (2) keep my contact information up-to-date with you, so that you can contact me in case of suspected fraud; (3) review my Account frequently and my statements promptly and report any suspicious or unauthorized activity to you immediately in accordance with this Agreement; and (4) take the actions you request and cooperate with any investigation. I agree that unauthorized activity does not include any actions or transactions undertaken by or at the request of me, my investment advisors or family members, or anyone else whom I have allowed access to my Account or to my Account information for any purpose, such as trading securities, writing checks, or making withdrawals or transfers.

d. Phone Conversations and Electronic Communications. You may record and monitor any telephone or electronic communications with me.

e. Credit Reports. I authorize you to request my credit reports to verify my creditworthiness and to provide information to credit agencies. Upon request, you will inform me whether a report was requested and provide me with the name and address of the credit-reporting agency that furnished the report. Negative credit information may be submitted to a credit-reporting agency if I fail to fulfill the terms of my credit obligations.

f. Disclosure of Account Information to Third Parties. Consistent with your Privacy Statement, you and your agents are specifically authorized to disclose information about my Accounts and me to third parties.

6. CLIENT COMMUNICATIONS

a. Addresses. You may send communications to the mailing address, email, telephone number, or facsimile number that I provide. You also may deliver information verbally or via the Secure Message Center on your website. Communications shall be deemed delivered to me whether or not I actually receive them.

b. Electronic Signatures. My use of electronic signatures to sign your documents legally binds me in the same manner as if I had manually signed. The use of an electronic version of these documents fully satisfies any requirement that they be provided to me in writing. If I sign electronically, I represent that I have the ability to access and retain a record of the documents. I am responsible for understanding these documents and agree to conduct business with you by electronic means. I am obliged to review periodically the websites for changes or modifications.

c. Consent. By consenting to the electronic delivery of all information relating to my Account, I authorize you to deliver all communications to me by the following means: (1) by email at the email address specified by me; (2) by posting the communication on the websites or other sites on the Internet where the communication can be read and printed; (3) by sending me an email that includes a hyperlink to the websites or an address on the Internet where the information is posted, and can be read and printed; and (4) by sending me a notice that directs me to an address on the Internet or a place within the websites where the communication is posted and from which it can be read and printed. Such delivery will be an effective delivery to me for the purpose of any Applicable Rules whether or not I access or review the communication. Although I consent to electronic delivery, you may elect to deliver communications by other means which shall not affect my consent. I will notify you of any change in my address. I may revoke my consent to electronic delivery of communications and receive documents on paper. You have a reasonable period to effect such a change and may charge a reasonable fee for sending paper copies.

d. Equipment. If I agree to electronic delivery, I must have a computer with Internet access, an email address, and the ability to download and save or print communications to retain for my records. I am responsible for obtaining and maintaining all equipment and services required for online access of my Account.

7. ELECTRONIC SERVICES

a. Availability. You do not guarantee that any media will be available to me at a particular time. Access to the websites may be limited or unavailable during periods of peak demand, market volatility, system upgrades, or other reasons.

You reserve the right to suspend and deny access to the Services, without prior notice or for any reason. I recognize that Account activity may be conducted through several different media (for example, Interactive Voice Response phone system [IVR] and phone); and if a certain medium is not available, I will use another medium to conduct Account activity. You will not be liable for the unavailability, delay, or failure of any of the media at any particular time or for the accessibility of, transmission quality, outages to, or malfunction of any telephone circuits, computer system, or software.

b. Use of Services. I will use the Services for lawful purposes, for my personal and noncommercial use, and as permitted by this Agreement. I will not transmit through the websites any material that violates or infringes in any way upon the rights of others or would encourage conduct that may give rise to civil or criminal liability. I will not modify, copy, publish, transmit, license, participate in the transfer or sale of, reproduce, create derivative works from, distribute, redistribute, display, or in any way exploit the Services. I will not upload, post, decompile, reverse engineer, disassemble, modify, copy, distribute, transmit, reproduce, republish, license, display, sell or transfer, or create derivative products from the Services. Software accessed on the websites is subject to U.S. export controls and may not be downloaded by any person prohibited from doing so by Applicable Rules.

I may download software on a single computer for personal, noncommercial use, provided I keep intact all copyright and other proprietary notices. You and Third-Party Providers reserve the right to revise, modify, change, upgrade, suspend, impose limitations or restrictions on, deny access to, remove, or discontinue the Services at any time without prior notice. Third-Party Providers may enforce this Agreement against me and take action against me for my breach of this Agreement.

c. Limitation of Liability. The Services are provided "as is" and "as available." You, your affiliates, the Third-Party Providers and their respective licensors, employees, distributors, or agents make no representations with respect to the system and expressly disclaim all warranties. Subject to Applicable Rules, in no event will you, your affiliates, the Third-Party Providers or their respective licensors, employees, distributors, or agents be liable to me or any third-party for any direct, indirect, incidental, special, punitive, or consequential losses or damages of any kind with respect to the Services.

I am solely responsible for my investment research, and neither you nor any Third-Party Provider make any representations, warranties, or other guarantees as to the accuracy or timeliness of any market data; nor do you or any Third-Party Provider make any representations, warranties, or other guarantees as to the present or future value or suitability of any sale, trade, or other transaction involving any particular security or any other investment.

d. Intellectual Property. My use of the Services will not confer any title, ownership interest, or intellectual property rights to me. The Services are protected under U.S. patent, copyright laws, international treaties or conventions and other laws, and will remain the exclusive property of you or Third-Party Providers. Company names, logos, and all related product and service names, design marks, and slogans of you or your affiliates or any Third-Party Provider are the property of the respective company. I am not authorized to use any such name or mark in any advertising, for publicity, or in any other commercial manner.

e. Cookies. You use cookies on websites and my browser will need to accept all cookies for it to perform fully. Certain features of the websites may also require the acceptance of cookies.

f. Hyperlinks. The websites may include hyperlinks to websites, owned or operated by affiliated or unaffiliated third parties. Neither you nor Third-Party Providers are responsible for the content or availability of such other websites, and shall not be responsible or liable for any loss in connection with reliance on such sites.

8. BROKERAGE SERVICES

a. Order Routing and Executions. Unless I specify the market for execution, you decide where to route my orders for execution. You consider a wide variety of factors in determining where to direct my orders, such as execution price, opportunities for price improvement (which is when an order is executed at a price that is more favorable than the displayed national best bid or offer), market depth, order size and trading characteristics of the security, efficient and reliable order handling systems and market center service levels, speed, efficiency, accuracy of executions, and the cost of executing orders at a market. If I instruct you to route my order to a particular market for execution ("Direct Routing"), and you accept my order and instruction, you are not required to make a best execution determination beyond executing the order promptly and in accordance with the terms of my order. Instructions to direct my order to certain market centers could incur additional fees.

b. Deposit and Order Refusal. You reserve the right not to accept the deposit of funds or particular securities into my Account and may refuse any of my orders. I will not hold you liable for any loss I may incur due to your refusal to permit any deposit or transaction.

c. Trade Execution and Price. You route orders to markets for prompt execution in view of prevailing market conditions, but there can be delays in the processing of orders. I understand and agree with the following:

- The quoted price may not reflect the trading activity from all markets.
- High volumes of trading at the market open or intraday may cause delays in executions and result in prices significantly different from the price quoted at the time the order was entered.
- Markets may handle orders manually and may reduce size guarantees during periods of volatility, resulting in possible delays in order execution, and losses.
- The execution price I receive may be impacted by numerous factors beyond your control and responsibility, including the type of security, liquidity, and the size of my order. For example, large or "block" orders or orders involving illiquid securities may take additional time to execute and may execute at prices significantly different from the quoted price.
- The execution of market and stop-market orders may be at a price significantly different from the quoted price of that security. Limit orders will be executed only at a specified price or better, but there is the possibility that the order will not be executed.
- Securities traded in over-the-counter bulletin board and pink sheet securities and other thinly traded securities present particular trading risks in that they are often more volatile and generally less liquid than securities traded on exchanges. You reserve the right to place restrictions on the trading of such securities without prior notice.
- I may suffer market losses during periods of volatility in the price and volume of a particular stock when systems issues result in an inability to place buy or sell orders.

d. Payment for Order Flow. You may receive remuneration from markets for directing orders to them. The source and amount of these payments are available upon written request. Markets may act as principals to buy, sell or hold securities for their own accounts, and they may make money when executing your trade.

e. Payment for Transactions. All orders that I authorize will be processed with the understanding that I will pay for any purchase and deliver certificates to cover all sales on or before the settlement date. All sell orders that I place will be for securities that I own ("long") and in deliverable form at the time I place the order, unless I inform you otherwise.

You reserve the right to require full payment, or an acceptable equity deposit, prior to the acceptance of any order. I will have the required cash, available funds, or equity in my Account prior to the execution and/or settlement of a purchase or short sale transaction, and the required securities in my Account prior to the execution and/or settlement of a long sale. If I do not have sufficient funds or securities in my Account, you have the right to liquidate or buy in securities at my expense, and I will be responsible for any cost or loss.

f. Payment of Indebtedness Upon Demand. I will be liable for the payment upon your demand of any obligations owing in my Account, including the reasonable costs incurred in collecting such amounts.

g. Security for Indebtedness. I consent to you having a continuing security interest in, right of set-off to and lien on all securities, cash, investment property, and other property in my Account ("Collateral"). Subject to Applicable Rules, and without prior notice to me, you may sell or transfer the Collateral to satisfy my obligations. You also have the discretion to determine which securities and other properties are to be sold and which contracts are to be closed. You have all the rights of a secured party under the Uniform Commercial Code.

h. Short Sales. I will designate any sell order as a "short" sale if at the time I place the order I do not own the security I intend to sell or am unable to deliver the security before settlement. All short sales will be executed in a Margin Account.

i. Mutual Funds. I authorize you to custody mutual fund holdings that I purchase directly through you. When purchasing a mutual fund, I acknowledge that I have received and read the fund prospectus. Mutual fund purchases may be subject to investment minimums, and some mutual funds sold through you impose a charge on the purchase of shares, called a "sales load." I may be able to purchase mutual fund shares through you without paying a front-end sales load, but I may be charged a fee, called a "contingent deferred sales charge," when I sell or redeem my shares. You may receive part or the entire sales load.

Some mutual funds offer reductions in front-end sales loads ("breakpoints"), for purchases over certain amounts or purchased through Letters of Intent or Rights of Accumulation. I am responsible for determining and obtaining any breakpoints, or providing you with sufficient information to assist me in obtaining a breakpoint.

You may receive remuneration from fund companies for providing recordkeeping and other shareholder services. Some mutual funds impose a distribution or service fee known as a "12b-1 fee." You may receive the 12b-1 fees in connection with my investment in such fund's shares. If I invest online in no-transaction-fee mutual funds ("NTF funds") directly through you, I will not pay a transaction fee. I also may be able to purchase mutual funds directly from the fund's distributor or underwriter without incurring a transaction fee. You receive remuneration from fund companies participating in the NTF fund program. NTF funds have other fees and expenses that apply to continued investment in the fund that are described in the prospectus.

j. Sweep Program. My available cash may be swept into a sweep vehicle pending investment of the cash. The alternatives available under the Sweep Program are referred to as "Sweep Choices," and the one I select is referred to as the "Designated Sweep Vehicle." You will notify me of the Sweep Choices and the Designated Sweep Vehicle. I agree that at account opening my Designated Sweep Vehicle will be the TD Ameritrade FDIC Insured Deposit Account (described below), unless I select a different Sweep Choice.

Cash will be automatically invested or deposited in the Designated Sweep Vehicle, according to a sweep schedule determined by you. Proceeds from the sale of securities will be swept into the Designated Sweep Vehicle following settlement if the securities sold have been received in good deliverable form by the settlement date. The proceeds of any checks that I deposit to my Account will be swept to the Designated Sweep Vehicle on the Business Day after receipt by you and will begin earning dividends or interest on that day. Access to such funds may be withheld for up to six Business Days to assure that such checks have not been returned unpaid. I may instruct you to change my Designated Sweep Vehicle at any time to another of the Sweep Choices, and acknowledge that such instruction shall constitute my authorization to liquidate balances in my Designated Sweep Vehicle and transfer such balances to the new Designated Sweep Vehicle. I authorize you to automatically withdraw cash or redeem securities maintained in a Designated Sweep Vehicle to satisfy my obligations. I authorize you to act as my agent to purchase and redeem balances in the Designated Sweep Vehicles, and authorize you to select and use agents as you deem appropriate.

The Sweep Choices may include money market funds or an FDIC-insured deposit account ("IDA") for which you or your affiliates receive, to the extent permitted by Applicable Rules, transaction, and other fees for providing services. These fees will vary depending on the money market fund (or share class) or IDA used. No portion of these fees will reduce or offset the fees otherwise due to you unless required by Applicable Rules.

There may be certain minimum requirements for initial and subsequent investments in the Designated Sweep Vehicles. You may change the eligibility criteria or replace the Sweep Choices available to me. You will give me advance notice of any such change in Sweep Choices. Unless I notify you of an objection to such change, I authorize you to withdraw cash or redeem securities held in the prior Designated Sweep Vehicle and to invest or deposit the proceeds in the replacement Designated Sweep Vehicle.

If my Designated Sweep Vehicle is a money market fund or IDA, and my Account is flagged as a "Pattern Day Trader," on the next Business Day, you may change my Designated Sweep Vehicle to TD Ameritrade Cash (described below).

1. **TD Ameritrade FDIC Insured Deposit Account.** If the IDA is my Designated Sweep Vehicle, the available cash in my Account will be automatically deposited in an IDA at TD Bank, N.A. ("TD Bank"), TD Bank USA, N.A. ("TD Bank USA") or both (individually, the "Bank" or collectively, the "Banks"), your affiliates. The IDAs at the Banks are money market deposit accounts held in the name of Clearing for the benefit of its customers. You have arranged the IDAs and account records in such a way that "pass through" FDIC insurance is available to me as if I had opened the IDAs directly in my own name. As a result, my funds at each Bank will be eligible for FDIC insurance in an amount equal to \$250,000 for principal and accrued interest per depositor in each recognized legal capacity (for example, Individual, Joint, IRA). Such insurance will cover my money in each IDA, together with any other deposits held at each Bank in the same legal capacity (for example, Individual, Joint, IRA). Questions about FDIC insurance coverage may be directed to you. Information also may be obtained by contacting the FDIC, by letter (550 17th St, N.W., Washington, D.C. 20429), by phone (877-275-3342, 800-925-4618 (TTY), by email (dcainternet@fdic.gov), or by accessing the FDIC website at www.fdic.gov.

My available cash will be deposited into an IDA at TD Bank up to a deposit amount of \$247,500 (\$495,000 for Joint Accounts). Any available cash in excess of \$247,500 (\$495,000 for Joint Accounts) will be swept to TD Bank USA without limit, even if the amount in the IDA exceeds the FDIC insurance limit of \$250,000. I am responsible for monitoring the total amount of deposits that I maintain at the Banks in order to determine the extent of FDIC coverage available to me. I acknowledge that the IDAs constitute an obligation of the Banks and are not your obligation.

You do not guarantee in any way the financial condition of the Banks or the accuracy of any publicly available financial information concerning the Banks. You will not be responsible for any insured or uninsured portion of the IDAs. Cash in my Account will be automatically swept on a daily basis to the IDAs at the Banks. As required by federal regulations, the Banks reserve the right to require seven days' prior notice before permitting a withdrawal out of the IDAs. Currently, the Banks do not intend to exercise this right. In addition, the IDAs have transfer limits that prevent using the IDAs as a transaction account. The following applies to the IDAs:

- When available cash is available for deposit, you will deposit available cash from my Account into an IDA at one or both of the Banks. Your bank sweep vehicles will periodically rebalance so the total amount of my funds in the IDA at TD Bank remains below applicable FDIC insurance limits.
- All withdrawals necessary to satisfy debits in my Account will be made by Clearing, as my agent. A debit will be created when I purchase securities or request a withdrawal of funds from my Account.
- If my deposits are held only at TD Bank, withdrawals will be made from the IDA held there. If I have funds in IDAs at both Banks, withdrawals will be made in reverse order, first from the IDA at TD Bank USA until none of my funds remain, and then from the IDA at TD Bank.
- My account statement will reflect the balances, activity, and interest earned with respect to the IDAs.
- The deposit limit at TD Bank is set slightly below FDIC-insurance thresholds to allow for accrued interest on deposits. The deposit limit at TD Bank is set at \$247,500 (\$495,000 for Joint Accounts), which may be reset from time to time based on FDIC-insurance limits and the interest rate environment. As a result, the combined FDIC-insurance limit will be up to \$500,000 for Individual Accounts, and up to \$1 million for Joint Accounts held by two or more parties. If interest paid on my funds in the IDA at TD Bank results in my total funds in the IDA exceeding the deposit limit at TD Bank, the IDA at TD Bank will be rebalanced the next day and the amounts in excess of the deposit limit will be transferred to the IDA at TD Bank USA.
- The Banks will determine interest rates on the IDAs in their discretion based upon a variety of factors, including prevailing economic and business conditions, and the nature and scope of your relationship with the Banks. I understand that rates may vary based on the particular offering or the level of my assets held with you. The interest rates paid with respect to the IDAs may be higher or lower than the interest rates available to depositors making deposits directly with the Banks or other depository institutions in comparable accounts. The current interest rate will be available on the websites, or I may contact you to obtain the current rate. Interest will accrue on balances from the day they are deposited into the IDAs through the Business Day preceding the date of withdrawal from the IDA. Interest will be accrued daily and credited on the last Business Day of each month.
- Clearing will act as my agent in depositing funds into the IDAs and withdrawing funds from the IDAs. No evidence of the IDAs, such as a passbook or certificate, will be issued to me. Ownership of the IDAs at the Banks will be evidenced by a book entry on the records of the Banks, and by records maintained by Clearing. I will contact you if I believe there has been any unauthorized activity between my Account and the IDAs, or if I have any complaints regarding the IDAs at the Banks.
- You may terminate my use of the IDA sweep feature. If you terminate my use of the IDA sweep feature, or do not wish to continue to act as my agent with respect to the IDA, I may deal directly with the Banks, subject to their rules, with respect to establishing and maintaining deposit accounts. In the event you terminate my use of the IDA sweep feature, you will inform me of the replacement sweep vehicle. Similarly, if I decide to terminate my use of the IDA sweep feature, or that I no longer wish to have Clearing act as my agent with respect to the IDAs, I may establish a direct depository relationship with the Banks, subject to the Banks' rules. Establishing a direct depository relationship with the Banks will result in the separation of my deposit balances at the Banks from my Account.
- The Banks use IDA balances to fund current and new investment and lending activity. The Banks seek to make a profit by achieving a positive spread between their cost of funds (for example, deposits) and the return on their assets, net of expenses. You receive a fee from the Banks for marketing, recordkeeping, and support services in connection with the IDAs. In exchange for providing these services, the Banks pay you an aggregate marketing fee based on the weighted average yield earned on the client IDA balances, less the actual interest paid to clients, a servicing fee to the Banks of 25 basis points (subject to adjustment) and the cost of FDIC insurance premiums. You have the right to waive all or part of this fee. The rate of the fee that you receive may exceed the interest rate or effective yield that I receive in my balances in the IDAs, and the payment of the fee reduces the yield that I receive. Other than the applicable fees charged on brokerage accounts, there will be no charges, fees, or commissions imposed on my Account for this cash sweep feature. The current IDA interest rate will be disclosed on your website and may be changed without prior notice.

- You may add other depository institutions to the IDA sweep feature. I will receive notification in advance of any such change. If a depository institution ceases to make its IDA available through the IDA sweep feature, I will be given an opportunity to establish a direct depository relationship with that institution outside of the IDA sweep feature, or to transfer funds to another depository institution participating in the IDA sweep feature, if available.
- In the event that FDIC insurance payments become necessary, the FDIC is required to pay principal plus unpaid and accrued interest to the date of the closing of the relevant depository institution, as prescribed by applicable laws and regulations. Because there is no specific time period during which the FDIC must make available such insurable payments, I should be prepared for the possibility of an indeterminate delay in obtaining insurable payments. In addition, I may be required to provide certain documentation to the FDIC and you, such as affidavits and indemnities, before any insurance payouts are released to me. For example, if the IDA balances are held by me as trustee for the benefit of trust participants, I may be required to furnish an affidavit to that effect.

2. TD Ameritrade Cash. If I selected TD Ameritrade Cash as my Designated Sweep Vehicle, you will pay interest on available cash in my Account, the rate of which may be changed without prior notice. Interest will be accrued daily and credited on the last Business Day of each month. You may vary interest rates among clients in connection with special offers or combinations of services or in other circumstances. TD Ameritrade Cash represents balances pending investment and is not maintained solely for receiving credit interest. TD Ameritrade Cash is not segregated, and you may use the balances, but only to the extent permitted by Applicable Rules. You may segregate TD Ameritrade Cash held in IRAs and other designated accounts from other cash.

3. Money Market Funds. Investments in money market funds are subject to restrictions, charges, and expenses described in the prospectus. Money market funds are securities that may increase or decrease in value. They are not insured or guaranteed by the FDIC, any other government agency, or you, and there can be no assurance that such funds will be able to maintain a stable net asset value of \$1 per share. I understand that I will receive period statements for sweep transactions involving money market funds in lieu of immediate confirmations.

k. Callable Securities. I consent to your lottery system for allocation of partial redemption or calls. A description of your procedures for callable securities is available on your website, or hard copies are available upon request.

9. MARGIN TRADING

a. Margin Account. When I purchase securities on margin, I am borrowing money from you and pledging all securities and other property in my Account as collateral for these loans. I agree to evaluate my own financial situation, resources, investment objectives, and other relevant circumstances to determine whether margin transactions are appropriate for me. You will not make this determination. Even if I determine that margin is appropriate for me, you determine whether to make such loans to me. I also understand that trading securities on margin involves a variety of risks, including the following:

- 1. I can lose more funds than I deposit in the margin Account.** A decline in the value of securities that I purchase on margin may require me to provide additional funds to you to avoid the forced sale of those securities or other securities or assets in my Account. I could lose more than the amount I deposit in my Account.
- 2. You can force the sale of securities or other assets in my Account.** If the equity in my Account falls below the maintenance margin requirement, or any higher "house" requirements, you can sell the securities or other assets in any of my Accounts to cover the margin deficiency. I also will be responsible for any shortfall in the Account after such a sale.
- 3. You can sell my securities or other assets without contacting me.** Some investors mistakenly believe that a firm must contact them for a margin call to be valid, and that the firm cannot liquidate securities or other assets in their accounts to meet the call unless the firm has contacted them first. This is not the case. Although you may attempt to notify me of margin calls, you are not required to do so, and even if you have contacted me and provided a specific date by which I can meet a margin call, you can still take necessary steps to protect your financial interests, including immediately selling securities without notice to me.
- 4. I am not entitled to choose which securities or other assets in my Account are liquidated or sold to meet a margin call.** Because the securities are collateral for my margin loan, you have the right to decide which securities to sell in order to protect your interests.
- 5. You can increase your "house" maintenance margin requirements at any time, and you are not required to provide me advance written notice of the change.** These changes to your policy often take effect immediately and may result in the issuance of a maintenance margin call. My failure to satisfy the call may cause you to liquidate or sell securities in my Account.
- 6. I am not entitled to an extension of time on a margin call.** While an extension of time to meet margin requirements may be available to clients under certain conditions, I do not have a right to any extension. You will determine whether to provide an extension.

b. Initial Margin and Margin Maintenance Requirements. There are rules and regulations covering margin loans, including the initial and margin maintenance requirements for margin Accounts. You may impose more stringent margin requirements, which may change without notice to me.

To trade on margin, my Account must maintain at least \$2,000 in minimum equity. I will meet the margin requirement in my margin Account before entering any order and will satisfy any additional requirements you may require. You may apply all premiums received from options writing against my margin requirements. I have the obligation to monitor the balances in my margin Account to ensure that I maintain sufficient amounts to meet margin requirements at all times. I agree to read carefully the TD Ameritrade Margin Handbook before purchasing securities on margin.

You may decline to extend credit to me for any reason, subject to Applicable Rules. There may be times when you have extended credit on certain securities, but due to market or other conditions, you may require additional cash or securities.

c. Margin Interest. I will pay interest on any credit provided to me for the purpose of purchasing, carrying, or trading in any security.

d. Margin Interest Rates. You utilize a base rate ("Base Rate") to set margin interest rates. My margin interest rate will vary based on the Base Rate and the margin balance ("Balance") in my margin Account during the interest period. The Base Rate may be changed without prior notice to me. You will post on the websites any changes to the Base Rate.

e. Interest Calculation. For each day there is a debit balance in my Account, the interest charged for that day is calculated by multiplying the applicable interest rate by my debit balance, with the result divided by 360. The sum of the daily interest charges is totaled at the end of each Account statement period and is posted to my Account on the last Business Day of the Account statement period. I will not earn interest on credit balances in my short Account.

f. Short Sales. Sales designated as "short" are done in my margin Account, and are subject to different margin maintenance requirements than securities purchased on margin. Short sales are subject to certain regulatory rules and cannot be executed under certain market conditions. You may not always have the securities available to facilitate my short sale. You may, without notice, "buy-in" securities to cover any short security position in my Account. I will reimburse you for any losses that you may incur. You may require me to deposit Collateral if the Collateral in my Account becomes insufficient. Short sale proceeds are part of the Collateral that secures your loan to me. I am also liable for all dividends paid on securities that I have sold short.

g. Pledge of Securities and Other Property. You may pledge, repledge, hypothecate, or re-hypothecate, without notice to me, all securities and other property that you hold, carry, or maintain or for any of my margin or short Accounts. You may do so without retaining in your possession or under your control for delivery the same amount of similar securities or other property. The value of the securities and other property that you may pledge, repledge, hypothecate, or re-hypothecate may be greater than the amount I owe you, and any losses, gains, or compensation that result from these activities will not accrue to my Account.

h. Loan of Securities. You are authorized to lend to yourself or others any securities you hold in my Account and to carry all securities lent as general loans. In connection with such loans, you may receive compensation and retain certain benefits that I will not be entitled to, such as interest on Collateral posted for such loans. In certain circumstances, such loans may limit my ability to exercise voting rights with respect to the securities lent. I may request that fully paid securities not be used in connection with short sales. I understand that in certain situations in which you have borrowed my securities, I may receive a "payment in lieu" of the dividend issued (see Margin Handbook for more details).

10. OPTIONS TRADING

If I elect to engage in options transactions, I will be bound by the following additional terms:

a. Suitability. Options are not suitable for all investors. Options trading has inherent risks and I am prepared financially to undertake such risks and to withstand the losses that may be incurred. I acknowledge I have received or have been given access to the "Characteristics and Risks of Standardized Options" by the Options Clearing Corporation (OCC).

b. General Terms.

- I am responsible for knowing the rights and terms of all options in my Account. I agree to be bound by the FINRA, OCC, and exchange rules applicable to the trading of options contracts.
- If my options trading occurs in a margin Account, it is subject to the terms and conditions applicable to margin trading.
- Settlement on options cleared through the OCC is the Business Day after the trade date. I shall not exceed the position and exercise limits imposed by the rules of the OCC.
- I am responsible for instructing you as to my intention to exercise options contracts before the expiration date.
- You collect information only to establish option trading permission and not for the purpose of monitoring Account holdings or option positions.
- You and Clearing are authorized to take steps to protect their position and any obligation they have assumed at my request without notifying me.
- If I write (short) a call options contract that requires the delivery of securities to be sold, I may be required to keep the securities in my Account until the expiration of the options period and may not be allowed to sell or withdraw the securities.
- If I write (short) a put options contract that requires payment for securities to be purchased, I may be required to keep sufficient funds in my Account to make the payment until the expiration of the options period, and may not be allowed to withdraw the funds or use them for any other purpose. If I am assigned on the options, Clearing may use the funds for the purchase of the securities without prior notice to me.
- All short equity and some index options positions are available for assignment. Exercise assignment notices for equity or index options are randomly allocated among all clients' short positions by an automated procedure.

11. INITIAL PUBLIC AND FOLLOW-UP OFFERINGS

You may participate as underwriter or a member of the selling group of, and provide access to, Initial Public Offerings (IPOs) and follow-up offerings. If I participate in such, I will be bound by additional terms.

12. ARBITRATION

This Agreement contains a predispute arbitration clause. By signing an arbitration clause, the parties agree as follows:

- All parties to this Agreement are giving up their right to sue each other in court, including the right to jury trial, except as provided by the rules of the arbitration forum in which a claim is filed.
- Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.
- The ability of the parties to obtain documents, witness statements, and other discovery is generally more limited in arbitration than in court proceedings.
- The arbitrators do not have to explain the reason(s) for their award unless, in an eligible case, a joint request for an explained decision has been submitted by all parties to the panel at least 20 days prior to the first scheduled hearing date.
- The panel of arbitrators may include a minority of arbitrators who were or are affiliated with the securities industry.
- The rules of some arbitration forums may impose time limits for bringing a claim in arbitration. In some cases, a claim that is ineligible for arbitration may be brought in court.
- The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this Agreement.
- No person will bring a putative or certified class action to arbitration, nor seek to enforce any predispute arbitration agreement against any person who has initiated in court a putative class action; or who is a member of a putative class who has not opted out of the class with respect to any claims encompassed by the putative class action until: (1) the class certification is denied; (2) the class is decertified; or (3) the client is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate will not constitute a waiver of any rights under this Agreement except to the extent stated herein.

I agree that any controversy between you and your affiliates, any of their respective officers, directors, employees, or agents and me (including any of my officers, directors, employees, or agents) arising out of or relating to this Agreement, our relationship, any Services provided by you, or the use of the Services, and whether arising before or after the date of this Agreement, shall be arbitrated and conducted under the provisions of the Code of Arbitration of the FINRA except as otherwise provided in the Amerivest Addendum. If any party unsuccessfully resists confirmation or enforcement of an arbitration award rendered under this Agreement, then that party shall pay all costs, attorneys' fees, and expenses incurred by the other party or parties in confirming or enforcing the award. Arbitration must be initiated by service upon the other party of a written demand for arbitration or notice of intention to arbitrate. Judgment, upon any award rendered by the arbitrator, may be entered in any court having jurisdiction.

13. ADVICE

- a. Unless otherwise noted by you in writing, you will act only as broker/dealer and not as an investment advisor governed by the Investment Advisers Act of 1940.
- b. When I act as a self-directed investor, I am responsible for determining the suitability of any particular investment strategy, transaction, or security. You have no responsibility for any such determination unless you otherwise agree in writing, or you or your representative gives advice directly to me that is identified clearly as a recommendation by you to enter into a particular transaction or to buy or sell a particular security or securities.
- c. From time to time, in connection with my Account, you may provide investment-related guidance and recommendations to me. I agree that when you make a recommendation to me, you determine its suitability for me at the time of the recommendation. If the recommended transaction is not effected contemporaneously with your recommendation, I agree you will have no liability if I choose to effect such transaction in the future. Furthermore, when you are acting as broker/dealer for my Account, I agree that you have no ongoing duty to ensure a recommendation continues to be suitable for me. Rather, I have an affirmative duty to monitor profits and losses in my Account, along with my investment goals and risk tolerance and to modify my trading decisions accordingly.
- d. Unless otherwise agreed to in writing, you do not have discretionary authority over my Account or an obligation to review or make recommendations for the investment of securities or cash in my Account.
- e. Any research, analysis, news, or other information made available by you does not constitute an individualized recommendation by you to buy or sell a particular security.
- f. You do not provide legal, tax, or estate planning advice.

14. MISCELLANEOUS

- a. **Severability.** If any provision of this Agreement is held to be illegal, invalid, or unenforceable under present or future laws, such provisions shall be fully severable. In such event: (1) this Agreement shall be construed and enforced as if such illegal, invalid, or unenforceable provision has never comprised a part of this Agreement or was modified to be legal, valid, and enforceable; and (2) the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provisions or by its severance from this Agreement, to the extent permitted by Applicable Rules.
- b. **Account Handbook.** The Account Handbook provided to me upon account opening, and available on your websites, contains important information about my Account. I will refer to the Account Handbook to learn additional information about the handling of trade orders, the receipt and delivery of funds, account policies, and other general account information.
- c. **Entirety of Agreement.** This Agreement, any attachments hereto, the addenda and other agreements referred to in this Agreement and the terms and conditions contained in the Account statements and confirmations contain the entire agreement between you and me; and it supersedes all prior or contemporaneous communications and proposals, whether electronic, oral, or written, between me and you, provided, however, any and all other agreements if any, between me and you and your affiliates, not inconsistent with this Agreement will remain in full force and effect.
- d. **Assignment and Escheatment.** I may not assign this Agreement or any rights or obligations under this Agreement without first obtaining your prior written consent. You may assign, sell, or transfer my Account and this Agreement, or any portion thereof, at any time, without my prior consent. The assets in my Account may be transferred to the appropriate state if no activity occurs in my Account within the time period specified by state law.
- e. **Amendment.** You reserve the right to amend this Agreement without prior notice to me or as required by Applicable Rules. The current version of the Agreement will be posted on the websites and my continued Account activity after such amendment constitutes my agreement to be bound by all amendments to the Agreement, regardless of whether I have actually reviewed them. You are not bound by any verbal statements that seek to amend the Agreement.
- f. **Termination.** You may terminate this Agreement, or close, deactivate, or block access to my Account. If you decide to close my Account and I fail to transfer it to another broker, you may liquidate my Account and send me the proceeds. I will remain responsible for the payment of all obligations incurred in my Account or otherwise. I may terminate this Agreement after paying any obligations owed upon written notice. The Agreement survives termination of the Account.
- g. **Force Majeure.** You will not be liable for loss caused directly or indirectly by conditions beyond your reasonable control, including but not limited to Force Majeure events. "Force Majeure" means events that are beyond the reasonable control of a party, including but not limited to the following: disasters, extraordinary weather conditions, earthquakes or other acts of God, war, insurrection, riot, labor strikes, terrorist acts, government restrictions, exchange or market rulings, suspension of trading, computer or communication line failure, or failure of market centers or transmission facilities.
- h. **Indemnification.** I agree to indemnify and hold harmless you, your affiliates, and Third-Party Providers and their respective officers, directors, employees, agents, and representatives from any and all liabilities, losses, costs, judgments, penalties, claims, actions, damages, expenses, or attorney's fees (collectively "Losses") resulting or arising directly or indirectly from my use of the Services.
- i. **Waiver.** Your failure to insist on compliance with this Agreement will not constitute a waiver of any of its rights.
- j. **Admissibility of Documents in Proceedings.** All documents in any format are considered to be true, complete, valid, authentic, and enforceable records of the applicable document, admissible in judicial or administrative proceedings to the same extent as if the documents and records were originally generated and maintained in printed form. I will not contest the admissibility or enforceability of your copy of the documents in any proceeding arising out of this Agreement.
- k. **Governing Law, Jurisdiction, and Venue.** This Agreement will be governed by the laws of the State of Nebraska, but not its conflicts of law provisions. I hereby consent to the jurisdiction of and venue within the State of Nebraska for all disputes arising out of or relating to this Agreement.

AMERIVEST ADDENDUM (ONLY FOR TD AMERITRADE INVESTING ACCOUNTS USING THE ONLINE SELF-DIRECTED AMERIVEST SERVICE OR THE AMERIVEST TARGET DATE PORTFOLIO SERVICE)

Amerivest® is an investment advisory service (the "Advisory Service") of Amerivest Investment Management, LLC ("Amerivest"), a registered investment advisor, your affiliate.

TD Ameritrade Investing Accounts are designed for use in conjunction with the Amerivest Advisory Service. They facilitate the execution of Exchange Traded Fund (ETF) transactions relating to the Advisory Service as well as other activities, including performance tracking.

Amerivest offers its online services through the Internet or software applications to a national clientele. The services are non-discretionary and are provided directly to individual clients through online consultations that involve neither the supervision of investments, nor the continuous management of investment advisory accounts. Clients are responsible for all decisions in their TD Ameritrade Investing Account including all buy and sell transactions which will generally be entered as market orders on an individual account basis. The basic online service provided to retail clients of TD Ameritrade, Inc. ("TD Ameritrade") is sometimes referred to as Self-Directed Amerivest. In addition to that service, Amerivest also provides an online service called Amerivest Target Date Portfolios.

Amerivest recommends asset allocation models utilizing specific index products (typically ETFs) on the online Amerivest platform. The Amerivest asset allocation models are primarily impersonal in nature. Online Amerivest service will involve the use of a Third-Party Provider. Under an agreement with the Third-Party Provider, it will provide asset allocation and investment selection services to Amerivest for a fee. In so doing, the Third-Party Provider will not act in the capacity of advisor to individual investors.

Amerivest provides no advice on securities other than selected ETFs. While TD Ameritrade Investing Accounts can receive cash as well as securities, any ETF purchases associated with the Advisory Service must be paid for with cash. Accordingly, I should only deposit securities into my TD Ameritrade Investing Account that I wish to transfer out or sell promptly after the deposit. As to any securities deposited into my TD Ameritrade Investing Account, I agree that (i) any actions taken by me will be subject to all of the provisions of this Agreement, (ii) Amerivest has not provided nor will provide any advice or recommendation to me as to the sale of such deposited securities, and (iii) I take full responsibility for the consequences for each such sale. If I decide not to sell any securities I deposit into my TD Ameritrade Investing Account, I will transfer them out of that Account promptly.

If the deposited securities are not transferred out promptly or if my related TD Ameritrade Investing Account only holds cash or cash alternatives at an amount significantly below the initial account minimum for two or more consecutive billing periods, Amerivest reserves the right to close my TD Ameritrade Investing Account (either at the time of the termination of this Agreement or at a later date). Upon notice of your intention to terminate this Agreement, if the account holds securities, cash, and/or cash alternatives, you may request instructions from me as to where assets should be transferred, but you reserve the right, and I authorize you, to modify the Account number associated with my TD Ameritrade Investing Account, to place trading restrictions on my TD Ameritrade Investing Account, and to charge reasonable annual custody fees until such time as you receive such instructions from me. If transfer instructions are not received from me within the time period you request such instructions, you reserve the right, and I authorize you, to transfer securities and/or other assets to an identically registered brokerage Account with TD Ameritrade or any of its affiliates. If there is no such identically registered brokerage Account, I understand that an Account may be opened for me. If my TD Ameritrade Investing Account only holds cash or cash alternatives, I agree that the proceeds will be delivered to me at my address of record.

I agree to the following terms and conditions, which supplement those in the TD Ameritrade Client Agreement:

1. The forecasts or other information generated by the Advisory Service regarding the probabilities that various investment outcomes might occur are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. The Advisory Service only presents a range of possible outcomes. The results that I achieve for my portfolio may vary significantly from the historical performance shown due to a variety of reasons, such as whether or not I decide to implement any recommendations provided by the Advisory Service. Historically, the return associated with individual types of investments is positively related to the risk associated with that type of investment. Investment decisions should be based upon a variety of sources and opinions. I should consult a qualified financial and tax professional before trading in any financial instrument. Amerivest and any of its affiliated companies, or any third party, shall have no liability, contingent or otherwise for any decision made or action I take in reliance upon the Advisory Service.
2. I will pay Amerivest an annual advisory fee based on the assets on which Amerivest provides advice. The annual advisory fee is calculated quarterly and applied in advance.

Account Value	Annual Fee*
First \$250,000	1.00%; subject to a minimum fee of the lesser of \$150 or 2.95%
Next \$250,000 (or portion thereof)	0.70%
Additional assets above \$500,000	0.55%

***In connection with this fee, TD Ameritrade will waive commission charges for all associated ETF transactions.**

For amounts up to \$250,000, the fee will be at the annual rate of 1.00% subject to a minimum fee of the lesser of \$150 annually or 2.95%. For amounts of \$250,000 or more, the fee will be a blended rate assessed quarterly. The annual fee for the first \$250,000 in Account value will be 1.00%. The annual fee for the next \$250,000 (or portion thereof) in Account value will be 0.70%. The annual fee for all additional assets in the Account above \$500,000 will be 0.55%.

The minimum initial Account size for Self-Directed Amerivest and Amerivest Target Date Portfolios is \$25,000.

3. The fee will be assessed in my TD Ameritrade Investing Account on the first trading day of each quarter. If I open my related TD Ameritrade Investing Account in the middle of a quarter, Amerivest will collect a pro-rated fee for the balance of the quarter upon the Account funding. If I close my related TD Ameritrade Investing Account in the middle of a quarter, Amerivest will refund to me the unearned portion of the previously collected fee. If I close my related TD Ameritrade Investing Account within five days of opening it, Amerivest will refund to me the fee paid in full promptly.
4. All pricing is subject to change on reasonable notice. Please note that Amerivest's advisory fees may be waived, in whole or in part, at the sole discretion of Amerivest. Amerivest also reserves the right to negotiate pricing in individual circumstances for clients with large accounts or multiple accounts, not assess the minimum annual fee in certain circumstances, and provide offers to new and prospective clients. In addition, the fee may be waived, in whole or in part, for employees and certain former employees of TD Ameritrade. If the account value is \$1,000 or lower at the time of billing, Amerivest reserves the right to not charge an advisory fee.

5. All investments in ETFs are subject to the terms of the relevant prospectus, including associated fees. I acknowledge that it is my responsibility to read all prospectuses, including the prospectuses of any ETF into which I exchange when they are received and to notify Amerivest immediately of any terms of the prospectuses that are not acceptable to me.
6. Amerivest's fee does not include commissions or any other charges that may be charged by TD Ameritrade or any other broker/dealer to execute transactions I may choose to make because of use of the Advisory Service. However, TD Ameritrade will waive all commission charges on associated ETF transactions. In addition, the advisory fee does not include underlying ETF expenses. These are the standard expenses that all shareholders pay. The expenses include 12b-1 fees, underlying advisory fee, and other related service fees described in the fund's prospectus.
7. In using the Advisory Service, I have provided the following information, directly or indirectly, to Amerivest: (1) my financial goal for an account invested in accordance with an asset allocation model involving index services ("Index Model Account"); (2) my time horizon to attain such goal; and (3) my risk tolerance. Any information provided by me to TD Ameritrade or its affiliates will not be considered in the Index Model Account recommendations. Recommendations provided by the Advisory Service constitute impersonal advice only and are not based on my individual financial circumstances that might impact any decisions I may make. I am responsible for evaluating the recommendations provided by the Advisory Service in light of my own personal financial situation and overall financial goals. It is my responsibility to determine if the recommendations made by the Advisory Service are suitable for my personal circumstances and whether I should implement them.
8. The Advisory Service contains model asset allocation recommendations involving index services. If I decide to follow any of the model recommendations, I may implement such recommendations through my TD Ameritrade Investing Account on an unsolicited basis. If I implement the recommendations in my separate Account, I may be charged applicable commissions and fees, and TD Ameritrade will act solely as broker. Because Amerivest is not exercising any discretion regarding my Account, I am responsible for rebalancing and reallocating any Index Model Account I may maintain.
9. Amerivest reserves the right to modify or change this Addendum and terminate my access to the Advisory Service without notice, for any reason. If the advisory relationship is terminated, I understand that my assets may be transferred to an identically registered brokerage Account. Fees, if any, are not refundable for termination under this section. In the event Amerivest terminates this Agreement, Amerivest may refund the prorated portion of any fee that may have been paid by me in advance as of the date of termination. Furthermore, I understand that I may terminate the advisory relationship by notifying Amerivest or if I close my related TD Ameritrade Investing Account, my Amerivest advisory relationship will also terminate. In addition, this Agreement will terminate automatically upon receipt by Amerivest or TD Ameritrade of legal notice of the death of the client.
10. The Amerivest service is generally not available to foreign investors. In order to open a TD Ameritrade Investing Account, I generally must: (1) be a U.S. person (including a U.S. resident alien); (2) have a valid U.S. residential mailing address (with the exception of United States military personnel residing outside the United States with Army Post Office ("APO") or Fleet Post Office ("FPO") addresses); and (3) have a valid U.S. taxpayer identification number.
11. Subject to Applicable Rules, the liability of Amerivest, or any Third-Party Providers arising out of any kind of claim connected with the Advisory Service, will not exceed the amount I have paid for the Advisory Service.
12. I indemnify and hold Amerivest and any of its affiliated companies, Third-Party Providers, their respective officers, directors, employees, and representatives harmless from and against any and all claims, losses, liability, costs, and/or expenses arising from my violation of this Addendum or any third party's rights. This indemnification and hold-harmless obligation will survive the termination of this Addendum. Nothing in these indemnification provisions is intended to limit any rights I may have.
13. Amerivest will not assign this Agreement (as the term "assignment" is defined in the Investment Advisers Act of 1940) without my consent.
14. This Addendum as it relates to the Advisory Services offered by Amerivest will be governed by and construed in accordance with the laws of the United States of America and the State of Nebraska without giving effect to principles of conflict of law.
15. In conjunction with Section 6.c. of the Client Agreement, I also provide informed consent to receive communications from Amerivest electronically in lieu of paper communications. Communications will include notices, disclosures, Form ADV Part 2 or equivalent disclosure brochure and regulatory communications. The communications will be delivered electronically to the email address provided on my account application. Amerivest may deliver paper communications to me from time to time, the delivery of such paper copies will not affect my consent to electronic delivery of communications. I may revoke this consent at any time in writing.
16. I retain the right and obligation to vote any proxies relating to the securities held in my TD Ameritrade Investing Account. Amerivest does not acquire or exercise proxy voting on my behalf. I will receive proxy materials directly from the securities issuer, their service providers, or TD Ameritrade. Amerivest will not advise me on the voting of proxies. Any proxy voting must be exercised by me directly.
17. I authorize and direct TD Ameritrade or an affiliate, as agent, to use its own execution services to effect transactions for my TD Ameritrade Investing Account. TD Ameritrade's responsibility is limited to executing transactions pursuant to my directions. TD Ameritrade will not act as an investment advisor to my TD Ameritrade Investing Account.
 - (A) I also authorize TD Ameritrade or an affiliate (such as its affiliated clearing broker, TD Ameritrade Clearing, Inc.) to act as custodian for assets held in my TD Ameritrade Investing Account. I agree to open an Account at TD Ameritrade and to execute the applicable TD Ameritrade account agreement(s).
 - (B) I am responsible for any tax liabilities which result from transactions in my Account (including any arising from the addition of assets to or withdrawal of assets from my account). I am encouraged to seek the advice of a tax professional. I acknowledge that Amerivest and TD Ameritrade do not provide tax or legal advice.
 - (C) TD Ameritrade shall provide me the following reports: (1) Trade confirmations reflecting all transactions in securities, and (2) Account statements (submitted at least quarterly) including securities held in the Account and an account history of transactions and advisory fees paid. The trade confirmations and statements will be considered binding on me unless I notify TD Ameritrade of any objections within five days from the date confirmations are sent and within 10 days after account statements are sent.
18. Risks Associated with Investing in ETFs. Equity-based ETFs are subject to risks similar to those of stocks, and fixed-income-based ETFs are subject to risks similar to those of bonds. Investment returns will fluctuate and are subject to market volatility, so that an investor's shares, when redeemed or sold, may be worth more or less than their original cost. Foreign-based ETFs have unique and greater risks than domestic-based ETFs including fluctuations

due to changes in a currency's exchange rate and political risk. Fixed-income mutual funds (bond funds) fluctuate with the bond market. Fixed-income risks include:

- Credit risk: the risk that a company or bond issuer may fail to pay principal and interest payments in a timely manner.
- Interest rate risk: the risk that the market value of the bonds will go down when interest rates go up.
- Prepayment risk: the risk that a bond will be paid off early.

Past performance is no guarantee of future results.

Except as otherwise provided by law, Amerivest will not be liable for:

- Any loss resulting from following my instructions or using inaccurate, outdated, or incomplete information that I provide,
- Any act or failure to act by ETFs, closed-end funds, open-end mutual funds, and other securities or any of their agents or any other third party, and
- Any loss in the market value in my TD Ameritrade Investing Account, except for losses resulting from our bad faith or gross negligence.

Federal and state securities laws impose liabilities in certain circumstances on persons who act in good faith, and nothing in this Agreement waives or limits any rights you have under those laws.

19. Receipt of disclosure document, this agreement, and the advisory services for your TD Ameritrade Investing Account are governed by the terms of the Amerivest Form ADV Part 2 disclosure brochure, which are incorporated by reference herein. By opening a TD Ameritrade Investing Account, I hereby acknowledge receipt of the Amerivest Form ADV Part 2 or a brochure providing the same information about Amerivest as required under Rule 204-3 of the Investment Advisers Act of 1940.

All controversies concerning this Addendum will be determined by arbitration. Such arbitration will be conducted by the American Arbitration Association in accordance with its Commercial Arbitration Rules in the State of Nebraska; provided, however, that if such controversy between the parties relates to a controversy to which TD Ameritrade, Inc. is a party and that is or becomes the subject of an arbitration before a national securities exchange or self-regulatory organization of which TD Ameritrade, Inc. is a member ("SRO Arbitration"), then the arbitration relating to the controversy between the parties shall be conducted by the same organization and according to the same rules and regulations as the SRO Arbitration. The decision or award of the arbitrator or a majority of them shall be final, and judgment on the award may be entered or enforced in any state or federal court having jurisdiction thereof.

This agreement to arbitrate does not constitute a waiver of any right provided to me by the Advisers Act, including the right to choose the forum, whether arbitration or adjudication, in which to seek resolution of disputes.

Any cause of action must be brought by me within one year of when the alleged breach occurred. Any consent, waiver, or approval by either party of any act or matter must be in writing and shall apply only to the particular act or matter to which such consent, waiver, or approval is given. I acknowledge that, in providing me with the Advisory Service, Amerivest has relied upon me to be bound by the terms of this Addendum and the Agreement. I further acknowledge that I have read, understand, and agree to be bound by the terms of this Addendum, and hereby reaffirm my acceptance of these terms by the use of the Advisory Service.

Investment Products: Not FDIC Insured * No Bank Guarantee * May Lose Value

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